



App Store Developer Study

US, China, Japan

Apple Market Research and Analysis
Fielded May 2017

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Δ DEFENDANT Δ	United States District Court Northern District of California	
	Case No.	<u>4:20-cv-05640-YGR</u>
	Case Title	<u>Epic Games, Inc. v. Apple, Inc.</u>
	Exhibit No.	<u>DX-3922</u>
	Date Entered	_____
	Susan Y. Soong, Clerk	
	By: _____, Deputy Clerk	

Why This Report?

Purpose: To understand marketing and business development issues of

iOS, macOS, watchOS, and tvOS app developers

Key areas include:

- Company developer profile
- Business profile
- Marketing profile
- App Store
- Guidance, tools and services
- International expansion

Methodology

App Store Developer Study

Who did we survey?

App developers for iOS, macOS, watchOS, or tvOS who were involved in business or marketing decisions of their company and had at least one app published on the App Store within the past two years. A two year range was used in an effort to ensure a large enough sample of respondents.

For analysis purposes, developers were segmented into small, mid and large tiers. The App Store analytics team defined the tiers based on app downloads. The downloads were segmented into three tiers since the top developers contribute a large proportion of downloads. The buckets were scaled in size— 93rd and above percentile for large, 71-93 for mid and 70th and below for small. The team wanted to understand if there were differences in results for developers with different levels of downloads.

Where?

US, China, Japan

How did we reach them?

Developers were randomly selected from the App Store Analytics team's database and invited to participate in a 15-minute web survey.

Notes

Statistical testing was conducted at a $p < 0.05$ significance level.

If data reported for large and mid tier groups is higher/lower than the corresponding value for the small tier tier group, it is indicated with an upward/downward arrow (↑ ↓). To simplify reporting, results of statistical testing may not be shown for values under 5%.

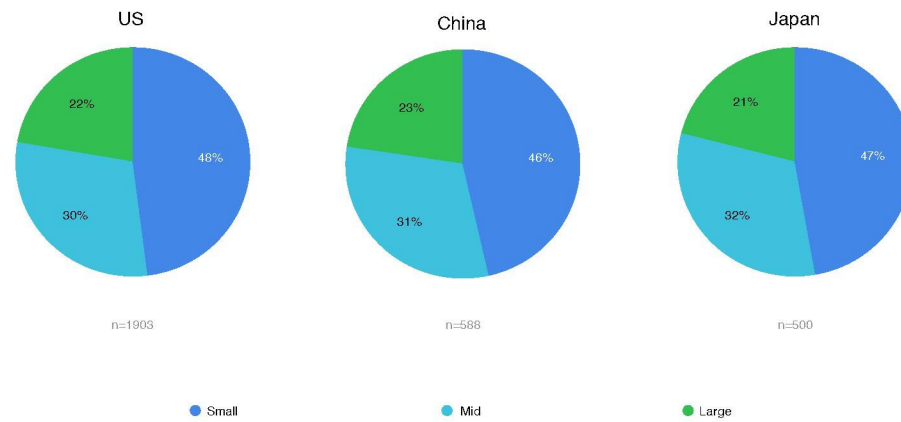
To simplify reporting, chart labels for values under 3% may not be shown. The term "Top-2 box" refers to the total of the top 2 results in a 5-point scale. Totals, sub-totals, and nets may be off by a point or two due to rounding.

Respondents' comments to open ended questions were manually coded into categories. Some of these categories are predetermined, others are added as new themes receive a sufficient number of mentions. The percentages reported are calculated based on the number of mentions provided (a respondent may not provide a comment or may have provided more than one comment) divided by the number of respondents who were shown the question.

Company developer profile

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Developer tier mix



Base: All respondents

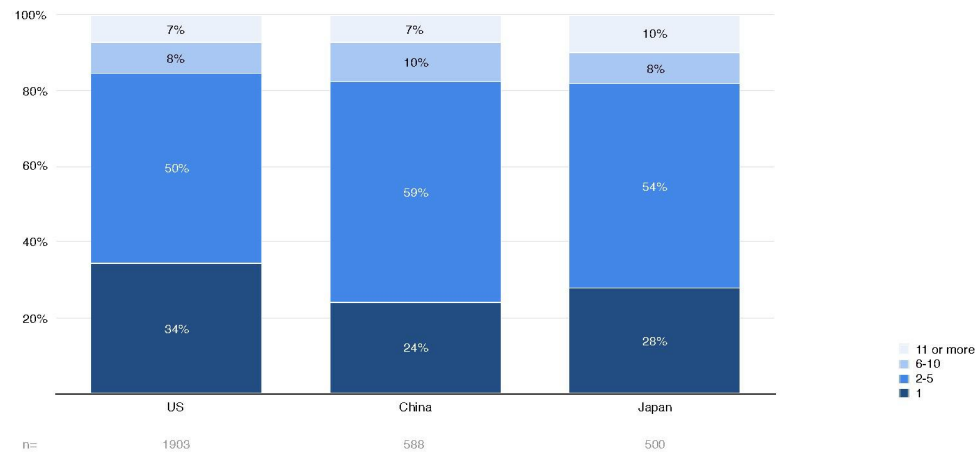
Development tier - sample data

Note: Development tier defined by the App Store Analytics team based on number of apps downloaded within the past two years, and tiered by percentile.

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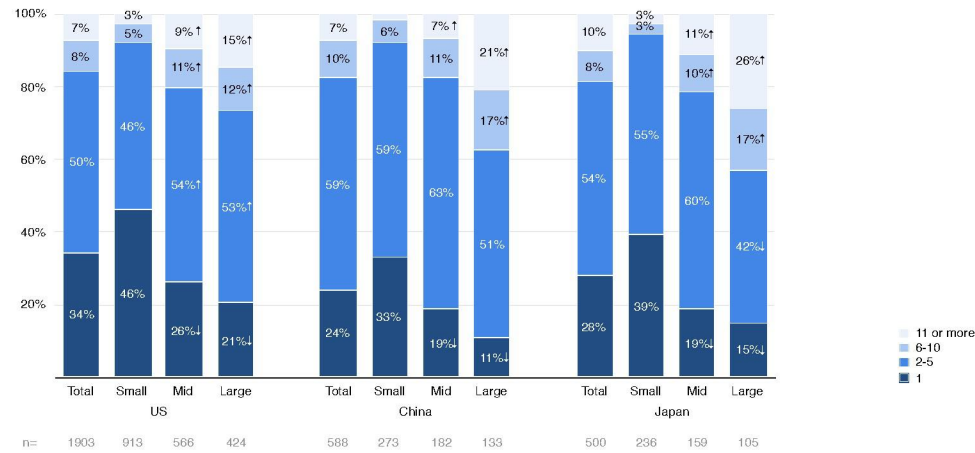
Number of apps published on the App Store in the past 2 years



Base: All respondents
S4: How many apps has your company published on the App Store in the last two years?

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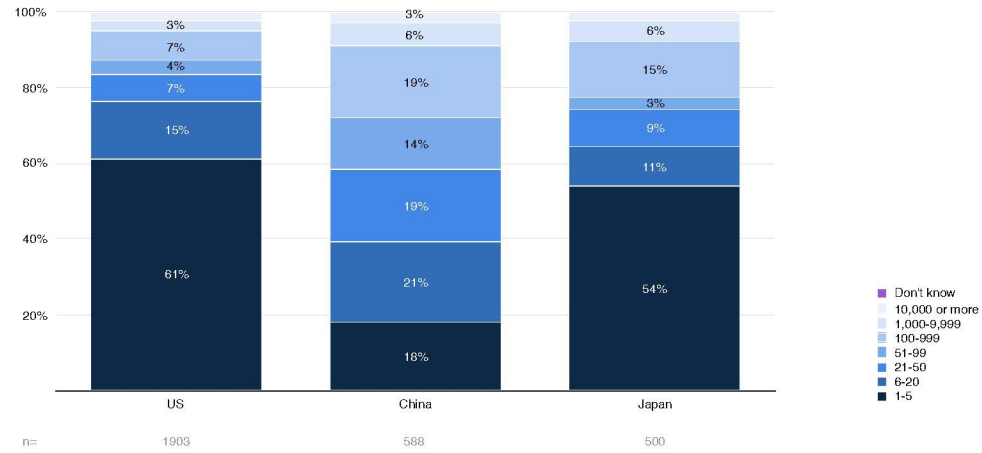
Number of apps published on the App Store in the past 2 years



Base: All respondents
 S4: How many apps has your company published on the App Store in the last two years?
 Note: Arrows denote comparisons to small tier within each country.

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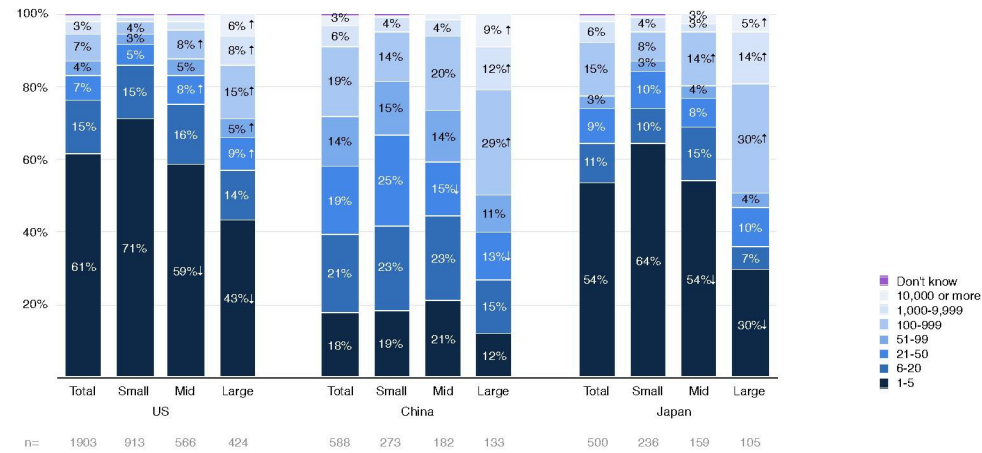
Number of employees



Base: All respondents
S5: How many people work at your company?

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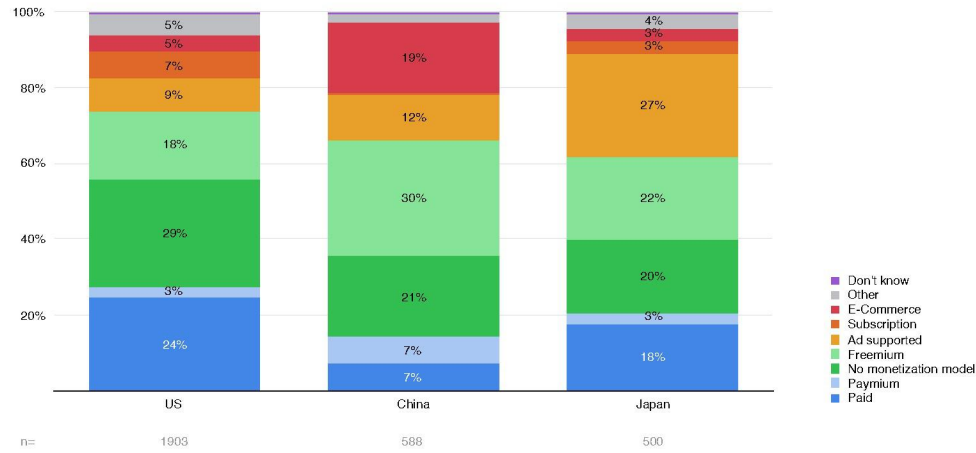
Number of employees



Base: All respondents
 S5: How many people work at your company?
 Note: Arrows denote comparisons to small tier within each country.

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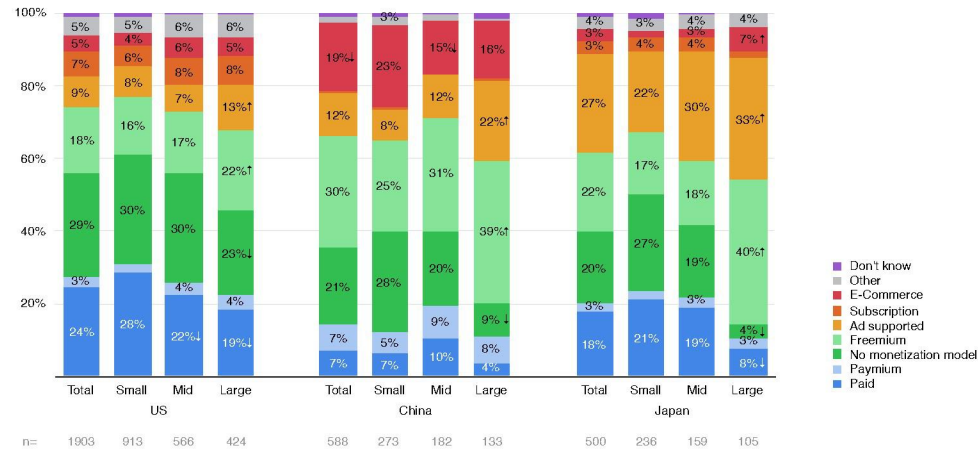
Primary business model for Apple apps



Base: All respondents
A3_N_1: What is the primary business model for your company's Apple apps?

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Primary business model for Apple apps



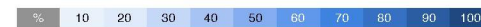
Base: All respondents
A3_N_1: What is the primary business model for your company's Apple apps?
Note: Arrows denote comparisons to small tier within each country.

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Primary app development categories

	US	China	Japan
Business	22%	16%	18%
Entertainment	21%	13%	23%
Utilities	21%	28%	21%
Games	21%	22%	29%
Education	21%	16%	21%
Productivity	19%	12%	17%
Lifestyle	15%	17%	19%
Health & Fitness	11%	5%	10%
Social Networking	9%	16%	7%
Photo & Video	8%	3%	11%
Medical	7%	4%	4%
Travel	7%	5%	5%
Reference	7%	3%	3%
Finance	6%	13%	4%
Shopping	6%	10%	3%
Food & Drink	6%	2%	4%
Music	5%	2%	5%
Sports	5%	3%	3%
Navigation	4%	3%	6%
Kids	3%	3%	6%
Books	3%	5%	6%
News	3%	7%	5%
Weather	2%	2%	2%
Magazines & Newspapers	1%	1%	3%
Catalogs	1%	2%	3%
Other	6%	3%	3%

n= 1903 588 500



Base: All respondents

A1: What are the primary categories your company develops apps for? (select all that apply)

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Primary app development categories

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Business	22%	23%	23%	19%	16%	22%	12% ↓	11% ↓	16%	22%	18%	8% ↓
Entertainment	21%	22%	20%	21%	13%	14%	10%	18%	23%	19%	28% ↑	24%
Utilities	21%	21%	23%	18%	28%	34%	23% ↓	22% ↓	21%	20%	27%	13%
Games	21%	21%	20%	22%	22%	13%	28% ↑	34% ↑	29%	21%	33% ↑	41% ↑
Education	21%	20%	22%	20%	16%	18%	19%	11%	21%	17%	25%	23%
Productivity	19%	19%	20%	16%	12%	13%	13%	10%	17%	19%	16%	15%
Lifestyle	15%	15%	15%	14%	17%	18%	15%	17%	19%	16%	23%	22%
Health & Fitness	11%	12%	12%	9% ↓	5%	6%	3%	5%	10%	9%	11%	10%
Social Networking	9%	9%	9%	8%	16%	16%	17%	14%	7%	9%	8%	6%
Photo & Video	8%	6%	8%	10% ↑	3%	3%	2%	5%	11%	10%	12%	12%
Medical	7%	6%	8%	8%	4%	4%	3%	3%	4%	5%	5%	2%
Travel	7%	7%	6%	6%	5%	5%	3%	8%	5%	5%	6%	5%
Reference	7%	6%	9%	↑	3%	3%	3%	5%	3%	4%	3%	1%
Finance	6%	5%	5%	6%	13%	7%	15% ↑	21% ↑	4%	3%	6%	5%
Shopping	6%	5%	6%	7%	10%	14%	7% ↓	8%	3%	1%	4%	7% ↑
Food & Drink	6%	6%	6%	5%	2%	2%	3%	0%	4%	3%	6%	3%
Music	5%	5%	6%	5%	2%	1%	1%	4%	5%	6%	6%	5%
Sports	5%	5%	5%	4%	3%	4%	1% ↓	3%	3%	3%	3%	3%
Navigation	4%	3%	4%	4%	3%	4%	2%	5%	6%	6%	5%	6%
Kids	3%	3%	3%	4%	3%	3%	4%	3%	6%	3%	7%	9% ↑
Books	3%	3%	3%	3%	5%	2%	5%	13% ↑	6%	5%	8%	9%
News	3%	2%	2%	4% ↑	7%	6%	5%	13% ↑	5%	3%	9%	↑
Weather	2%	2%	2%	3%	2%	1%	1%	6% ↑	2%	1%	4%	2%
Magazines & Newspapers	1%	1%	2%	↑	1%	1%	0%	3%	3%	1%	3%	5% ↑
Catalogs	1%	0%	2%	↑	2%	2%	3%	2%	3%	2%	3%	5%
Other	6%	7%	6%	4% ↓	3%	4%	2%	2%	3%	3%	4%	3%
n=	1903	913	566	424	588	273	182	133	500	236	159	105

%

102030405060708090100

Base: All respondents
A1: What are the primary categories your company develops apps for? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

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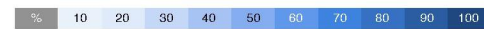
App platforms

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Apple platforms developed for

	US	China	Japan
iOS	99%	100%	99%
iPhone	98%	100%	97%
iPad	82%	56%	70%
iMessage	9%	5%	7%
macOS	16%	6%	11%
watchOS	12%	6%	9%
tvOS	10%	1%	4%

n= 1903 598 500



Base: All respondents (excluding those who selected don't know)
A3_N_2: What Apple platforms does your company develop apps for? (select all that apply)

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Apple platforms developed for

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
iOS	99%	99%	100% ↑	100% ↑	100%	99%	100%	100%	99%	98%	100%	100%
iPhone	96%	94%	98% ↑	98% ↑	100%	99%	100%	100%	97%	95%	98%	100% ↑
iPad	82%	78%	85% ↑	85% ↑	56%	45%	67% ↑	66% ↑	70%	64%	75% ↑	77% ↑
iMessage	9%	9%	8%	10%	5%	3%	7%	8%	7%	3%	4%	17% ↑
macOS	16%	15%	16%	18%	6%	5%	7%	8%	11%	9%	15% ↑	10%
watchOS	12%	9%	13% ↑	17% ↑	6%	3%	6%	12% ↑	9%	6%	9%	16% ↑
tvOS	10%	7%	10% ↑	15% ↑	1%	1%	0%	2%	4%	3%	4%	9% ↑
n=	1903	913	568	424	588	273	182	133	500	236	159	105

%

10

20

30

40

50

60

70

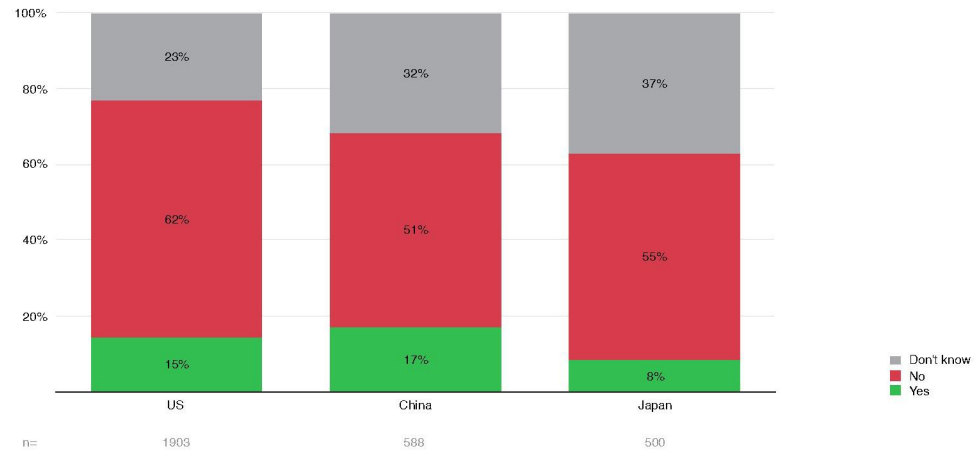
80

90

100

Base: All respondents (excluding those who selected don't know)
A3_N_2: What Apple platforms does your company develop apps for? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

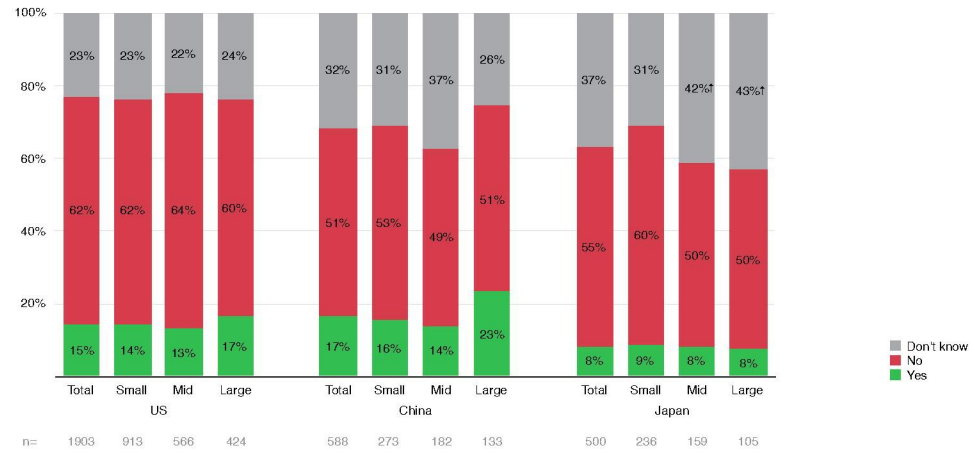
Plan to develop for iMessage within next 12 months



Base: All respondents
Q80: Does your company plan to develop for iMessage in the next 12 months?

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Plan to develop for iMessage within next 12 months



Base: All respondents
 Q80: Does your company plan to develop for iMessage in the next 12 months?
 Note: Arrows denote comparisons to small tier within each country.

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Reasons company does not plan to develop for iMessage

	US	China	Japan
Low customer awareness	34%	61%	39%
Challenges related to discovery of App Store for iMessage	14%	37%	7%
Limited ability to merchandise	8%	17%	10%
Limited categories	6%	17%	16%
Inability to deep-link	5%	9%	3%
Lack of analytics	4%	20%	44%
Other (net)	47%	8%	14%
Other: Not applicable or appropriate for the app/ business	13%	1%	1%
Other: Not useful or irrelevant	9%	1%	2%
Other: Not interested	5%	0%	1%
Other: There's no market	5%	3%	2%
Don't know	17%	6%	14%

n= 1186 302 273

Base: Col % for 10 not p 20 30 40 50 60 70 80 90 100
 Q81: Please tell us why your company is not planning to develop for iMessage. (select all that apply)

Note: Categories under 5% are not displayed under 'Other (net)'. Respondents' comments to open ended questions were manually coded into categories. Some of these categories are predetermined, others are added as new themes receive a sufficient number of mentions. The percentages reported are calculated based on the number of mentions.

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Reasons company does not plan to develop for iMessage

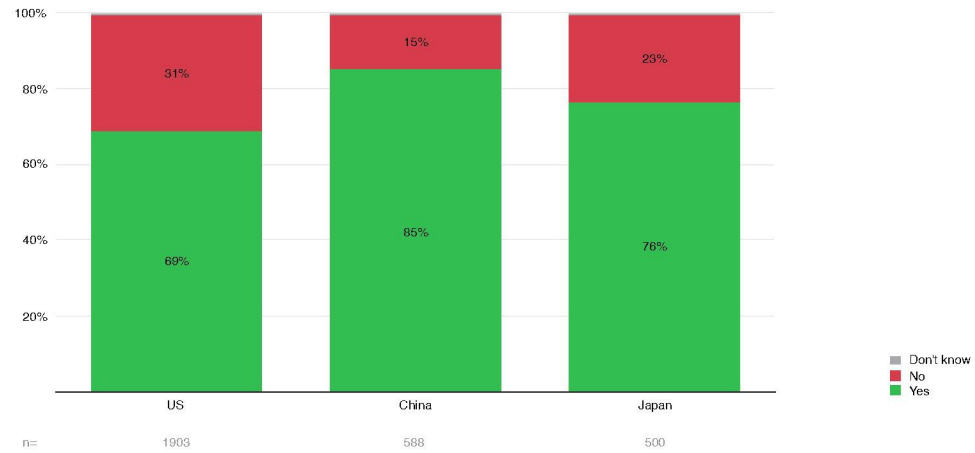
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Low customer awareness	34%	34%	32%	35%	61%	61%	58%	66%	30%	30%	51% ↑	46% ↑
Challenges related to discovery of App Store for iMessage	14%	13%	14%	17%	37%	39%	39%	28%	7%	4%	13% ↑	6%
Limited ability to merchandise	8%	7%	9%	11%	17%	15%	21%	16%	10%	6%	11%	19% ↑
Limited categories	6%	6%	6%	6%	17%	20%	18%	9% ↓	16%	12%	19%	21%
Inability to deep-link	5%	6%	3%	4%	9%	12%	9%	3% ↓	3%	2%	4%	6%
Lack of analytics	4%	3%	3%	7% ↑	20%	20%	24%	13%	44%	45%	45%	40%
Other	47%	46%	48%	47%	8%	6%	8%	13%	14%	16%	11%	12%
Don't know	17%	18%	16%	15%	6%	4%	9%	6%	14%	17%	6% ↓	17%
n=	1188	587	365	254	302	145	89	68	273	141	80	52



Base: Company does not plan to develop for iMessage in the next 12 months
 Q81: Please tell us why your company is not planning to develop for iMessage. (select all that apply)
 Note: Arrows denote comparisons to small tier within each country.

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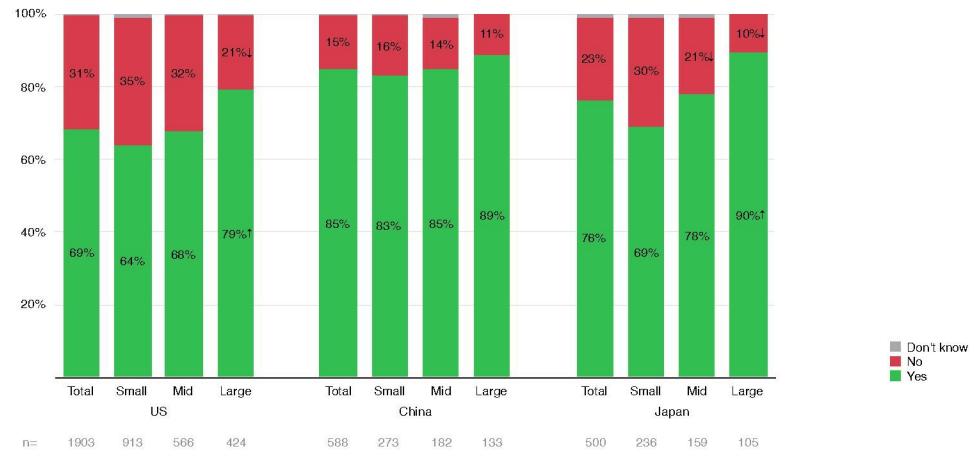
Develops apps for operating systems and platforms other than Apple



Base: All respondents
A5: Do you develop apps for mobile operating systems and platforms other than Apple?

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Develops apps for operating systems and platforms other than Apple



Base: All respondents
 A5: Do you develop apps for mobile operating systems and platforms other than Apple?
 Note: Arrows denote comparisons to small tier within each country.

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Other operating systems and platforms apps are developed for

	US	China	Japan
Android (net)	88%	96%	85%
Android Mobile	86%	95%	84%
Android Wear	5%	5%	6%
Android TV	4%	8%	4%
HTML5	49%	53%	37%
Windows	31%	28%	38%
Amazon (net)	11%	1%	10%
Fire OS	10%	1%	9%
Amazon Fire TV	4%	0%	3%
Virtual reality	7%	6%	10%
Augmented reality	7%	4%	8%
Roku TV	3%	0%	1%
Game consoles	3%	0%	3%
Other	8%	0%	3%
Don't know	1%	2%	1%

n= 1306 499 381



Base: Develops apps for non-Apple OS and platforms

A6: What other operating systems and platforms does your company develop apps for? (select all that apply)

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Other operating systems and platforms apps are developed for

	US				China				Japan						
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large			
Android (net)	86%	83%	87%	93% ↑	96%	96%	94%	99%	85%	77%	89% ↑	95%			
Android Mobile	86%	82%	86%	92% ↑	95%	95%	92%	98%	84%	75%	88% ↑	94%			
Android Wear	5%	5%	5%	5%	5%	4%	5%	6%	6%	6%	2%	10%			
Android TV	4%	4%	3%	5%	8%	7%	7%	12%	4%	3%	3%	5%			
HTML5	49%	49%	50%	49%	53%	56%	53%	49%	37%	38%	32%	39%			
Windows	31%	33%	31%	30%	28%	29%	30%	23%	38%	40%	36%	37%			
Amazon (net)	11%	10%	9%	17% ↑	1%	2%	0%	2%	10%	4%	11% ↑	20%			
Fire OS	10%	9%	8%	14% ↑	1%	2%	0%	2%	9%	4%	11% ↑	17%			
Amazon Fire TV	4%	3%	3%	6% ↑	0%	1%	0%	0%	3%	0%	3% ↑	7%			
Virtual reality	7%	6%	7%	8%	6%	4%	5%	9%	10%	5%	11%	19%			
Augmented reality	7%	6%	9%	6%	4%	5%	2%	4%	8%	7%	6%	12%			
Roku TV	3%	2%	2%	4%	0%	0%	0%	0%	1%	0%	2%	0%			
Game consoles	3%	1%	3%	5% ↑	0%	0%	0%	2% ↑	3%	1%	3%	4%			
Other	8%	8%	7%	9%	0%	0%	1%	1%	3%	5%	3%	0%			
Don't know	1%	1%	0%	1%	2%	1%	4% ↑	0%	1%	1%	2%	1%			
n=	1306	585	385	336	499	227	154	118	381	163	124	94			
					%	10	20	30	40	50	60	70	80	90	100

Base: Develops apps for non-Apple OS and platforms

A6: What other operating systems and platforms does your company develop apps for? (select all that apply)

Note: Arrows denote comparisons to small tier within each country.

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App business growth

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Expected growth areas for Apple app business in next 12 months

	US	China	Japan
Increasing user base through organic growth	54%	54%	42%
New apps	44%	42%	48%
Increasing engagement/monetization of existing users	32%	60%	33%
New business models	20%	44%	25%
Increasing user base through paid app installs	18%	15%	18%
New platform support	16%	12%	14%
International markets	15%	20%	20%
Don't know	11%	3%	9%

n= 1903 588 500

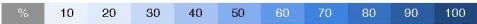


Base: All respondents

A7: In which of the following areas does your company expect to drive the most growth for its Apple app business in the next 12 months? (select all that apply) APPLE
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Expected growth areas for Apple app business in next 12 months

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Increasing user base through organic growth	54%	50%	55%	60% ↑	54%	52%	53%	60%	42%	34%	45% ↑	56% ↑
New apps	44%	44%	45%	42%	42%	43%	41%	40%	48%	43%	54% ↑	50%
Increasing engagement/monetization of existing users	32%	26%	32% ↑	45% ↑	60%	52%	63% ↑	71% ↑	38%	23%	33% ↑	55% ↑
New business models	20%	20%	17%	24%	44%	49%	40%	41%	25%	28%	21%	23%
Increasing user base through paid app installs	18%	19%	16%	20%	15%	11%	17% ↑	22% ↑	18%	19%	20%	13%
New platform support	16%	15%	17%	16%	12%	15%	10%	9%	14%	14%	17%	11%
International markets	15%	14%	13%	20% ↑	20%	15%	22%	26% ↑	20%	16%	20%	31% ↑
Don't know	11%	14%	11%	8% ↓	3%	3%	4%	4%	9%	12%	9%	3% ↓
n=	1903	913	566	424	588	273	182	133	500	236	159	105



Base: All respondents
A7: In which of the following areas does your company expect to drive the most growth for its Apple app business in the next 12 months? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

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Method to measure apps' success

	US	China	Japan
Downloads	58%	61%	55%
Revenue	53%	53%	69%
Customer engagement/time spent with app	45%	66%	30%
Ratings and reviews	43%	29%	31%
Performance on App Store charts	18%	34%	27%
App Store featuring	14%	35%	19%
Media interest	12%	20%	19%
Benchmarking against competitors	10%	24%	12%
Awards and accolades	9%	13%	5%
Investments and funding	7%	22%	4%
Other	6%	1%	3%
Don't know	2%	2%	2%

n= 1903 588 500



Base: All respondents

A8_N_1: How does your company measure its apps' success? (select all that apply)

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Method to measure apps' success

	US				China				Japan						
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large			
Downloads	56%	56%	56%	57%	61%	61%	62%	60%	55%	51%	59%	56%			
Revenue	53%	49%	52%	63% ↑	53%	45%	59% ↑	60% ↑	69%	63%	72%	76%			
Customer engagement/time spent with app	45%	41%	45%	54% ↑	66%	65%	65%	69%	30%	25%	27%	45%			
Ratings and reviews	43%	39%	43%	53% ↑	29%	23%	30%	39% ↑	31%	24%	38% ↑	37%			
Performance on App Store charts	18%	15%	17%	24% ↑	34%	24%	39% ↑	48% ↑	27%	18%	33% ↑	36%			
App Store featuring	14%	11%	14%	22% ↑	35%	26%	36% ↑	51% ↑	19%	12%	25% ↑	24%			
Media interest	12%	10%	12%	15% ↑	20%	21%	18%	22%	19%	17%	22%	20%			
Benchmarking against competitors	10%	7%	10%	17% ↑	24%	21%	26%	26%	12%	9%	12%	18%			
Awards and accolades	9%	7%	11% ↑	12% ↑	13%	10%	14%	17% ↑	5%	5%	4%	7%			
Investments and funding	7%	8%	8%	6%	22%	25%	25%	14% ↓	4%	4%	6%	3%			
Other	6%	5%	7% ↑	6%	1%	0%	1%	0%	3%	3%	4%	1%			
Don't know	2%	3%	1%	1% ↓	2%	2%	2%	1%	2%	3%	1%	2%			
n=	1903	913	566	424	588	273	182	133	500	236	159	105			
					%	10	20	30	40	50	60	70	80	90	100

Base: All respondents

A8_N_1: How does your company measure its apps' success? (select all that apply)

Note: Arrows denote comparisons to small tier within each country.

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Most important method to measure apps' success

	US	China	Japan
Revenue	37%	26%	50%
Customer engagement/time spent with app	24%	32%	13%
Downloads	19%	17%	17%
Ratings and reviews	7%	2%	4%
App Store featuring	3%	8%	3%
Investments and funding	2%	5%	1%
Performance on App Store charts	2%	4%	3%
Media interest	1%	1%	2%
Benchmarking against competitors	1%	3%	2%
Awards and accolades	0%	0%	1%
Other	4%	1%	3%
Don't know	2%	2%	2%

n= 1903 588 500



Base: All respondents
A8_N_2: And which of these is most important in measuring your apps success?

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Most important method to measure apps' success

	US				China				Japan						
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large			
Revenue	37%	35%	36%	44% ↑	26%	23%	30%	27%	50%	47%	50%	53%			
Customer engagement/time spent with app	24%	22%	24%	27%	32%	34%	30%	32%	13%	11%	10%	21%			
Downloads	19%	23%	19%	10% ↓	17%	18%	15%	15%	17%	21%	15%	12%			
Ratings and reviews	7%	6%	6%	8%	2%	3%	1%	3%	4%	4%	6%	2%			
App Store featuring	3%	2%	3%	3%	8%	6%	8%	11%	3%	2%	5%	4%			
Investments and funding	2%	2%	2%	0% ↓	5%	6%	4%	2%	1%	1%	3%	0%			
Performance on App Store charts	2%	2%	2%	2%	4%	2%	5% ↑	8% ↑	3%	2%	6%	1%			
Media interest	1%	1%	1%	0%	1%	1%	1%	0%	2%	3%	1%	0%			
Benchmarking against competitors	1%	1%	1%	1%	3%	4%	3%	1%	2%	2%	0%	3%			
Awards and accolades	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%			
Other	4%	4%	5%	4%	1%	0%	1%	0%	3%	3%	4%	1%			
Don't know	2%	3%	1%	1% ↓	2%	2%	2%	1%	2%	3%	1%	2%			
n=	1903	913	566	424	588	273	182	133	500	236	159	105			
					%	10	20	30	40	50	60	70	80	90	100

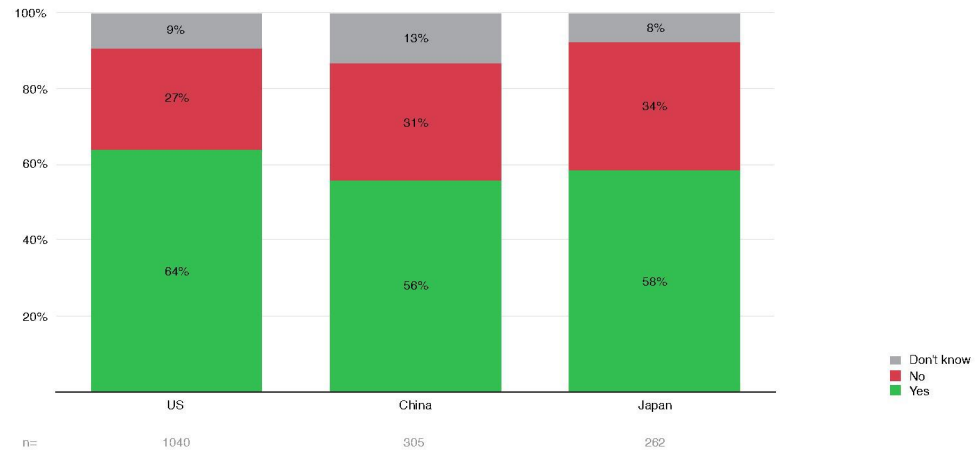
Base: All respondents
A8_N_2: And which of these is most important in measuring your apps success?
Note: Arrows denote comparisons to small tier within each country.

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Business profile

APPLE CONFIDENTIAL 20

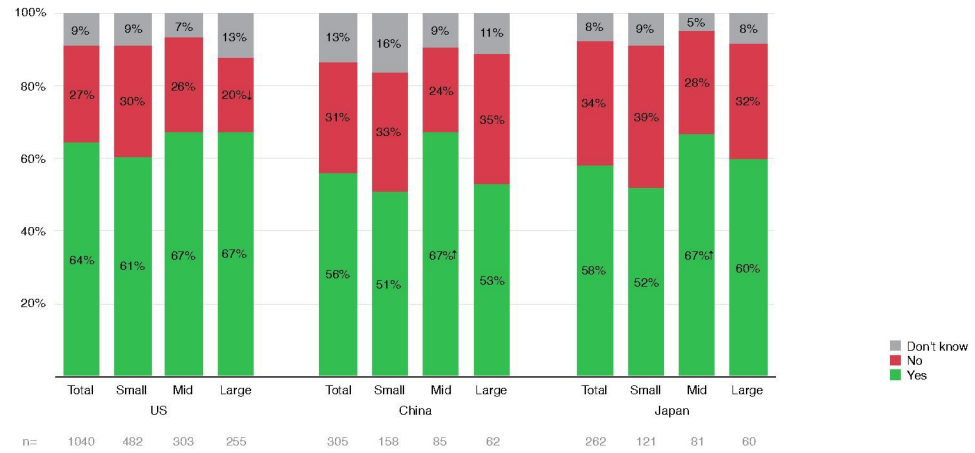
Uses Sales & Trends Reports



Base: Business respondents
Q91: Does your company use the Sales & Trends Reports?

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Uses Sales & Trends Reports

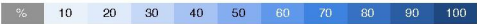


Base: Business respondents
 Q91: Does your company use the Sales & Trends Reports?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
 CONFIDENTIAL X

Reasons not using Sales & Trends Reports

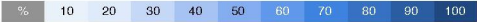
	US	China	Japan
Did not know of reports	25%	26%	28%
Sales and Trends data ingested into a third party tool	18%	46%	28%
Reports not granular enough	12%	27%	17%
Other	33%	7%	26%
Don't know	19%	10%	17%
n=	277	94	89



Base: Business respondents who do not use the Sales & Trends Reports
Q92: Why doesn't your company use Sales and Trends Reports? (select all that apply)

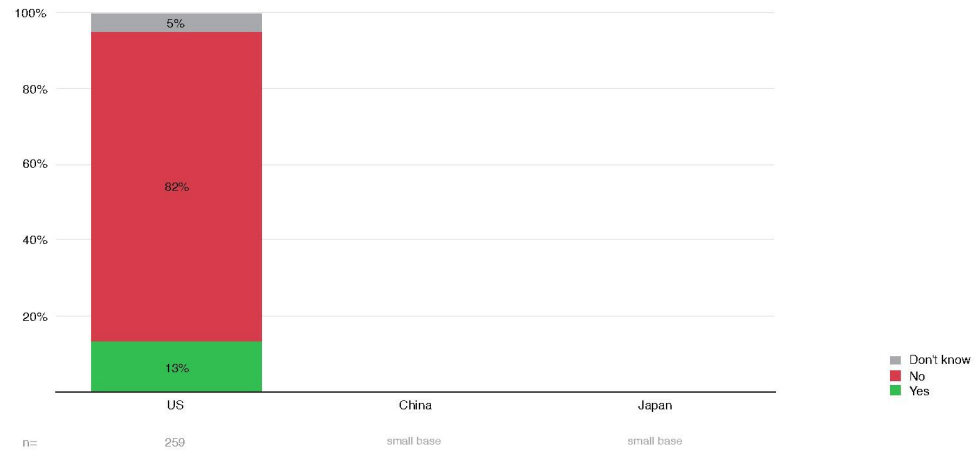
Reasons not using Sales & Trends Reports

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Did not know of reports	25%	30%	23%	14% ↓	26%	27%			28%			
Sales and Trends data ingested into a third party tool	18%	12%	17%	35% ↑	46%	40%			28%			
Reports not granular enough	12%	10%	11%	22% ↑	27%	15%			17%			
Other	33%	35%	34%	26%	7%	14%			26%			
Don't know	19%	16%	23%	22%	10%	17%			17%			
n=	277	147	79	51	94	52	small base	small base	89	small base	small base	small base



Base: Business respondents who do not use the Sales & Trends Reports
Q92: Why doesn't your company use Sales and Trends Reports? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Offers country-specific pricing



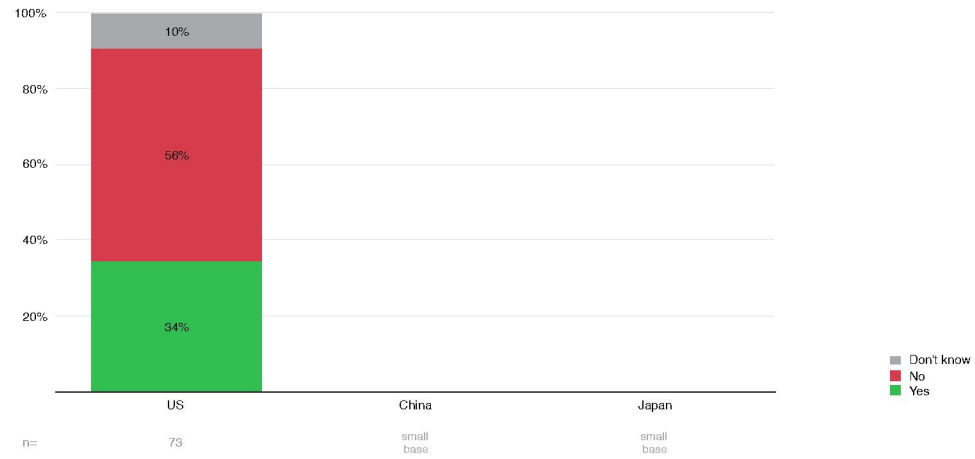
Base: Business respondents whose company has a paid business model
Q91: Does your company offer country specific pricing?

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App Store subscription

APPLE CONFIDENTIAL 24

New to subscription on the App Store in past 12 months



Base: Business respondents who use a subscription model
Q102: Is your company's business new to subscription on the App Store in the past 12 months?

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Awareness of App Store subscription features

	US	China	Japan
Territory pricing	49%		
Subscription data in Sales & Trends	48%		
85% revenue after 1 year	41%		
Expanding price tiers	38%		
Price preservation during price increases	32%		
Upgrades, Downgrades, Crossgrades	30%		
Subscriptions available to categories	27%		
Multi-app subscription	26%		
Improved customer communication of price increases	21%		
I am not aware of any of the subscription features listed above	29%		

n= 73 small base small base



Base: Business respondents who use a subscription model

Q95: Which of the following App Store subscription features are you aware of? (select all that apply)

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Use of App Store subscription features

	US	China	Japan
Subscription data in Sales & Trends	38%		
85% revenue after 1 year	16%		
Upgrades, Downgrades, Crossgrades	12%		
Territory pricing	8%		
Expanding price tiers	8%		
Subscriptions available to categories	7%		
Price preservation during price increases	7%		
Improved customer communication of price increases	4%		
Multi-app subscription			
Don't know	3%		
None of these	52%		

n= 73 small base small base



Base: Business respondents who use a subscription model

Q96: And which of the following App Store subscription features does your company currently use? (select all that apply)

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How heard about App Store subscription features

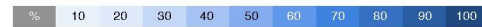
	US	China	Japan
iTunes Connect	46%		
Tech publications or industry forums	40%		
Developer.apple.com/app-store	27%		
Word of mouth from other developers I know	25%		
Internet searches	17%		
Social media	14%		
Other	17%		
Don't know	2%		

n=

52

small
base

small
base



Base: Aware of at least one App Store subscription feature and use a subscription model
Q97: How did you hear about the App Store subscription features? (select all that apply)

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Subscriptions features plan to implement in the next 12 months

	US	China	Japan
Expanding price tiers	7%		
Upgrades, Downgrades, Crossgrades	6%		
Territory pricing	4%		
Multi-app subscription	4%		
Price preservation during price increases	3%		
Subscriptions available to categories	1%		
Don't know	15%		
Aware of subscription features, no plans to implement	33%		
Not aware of any subscription features	38%		

n=

73

small base

small base

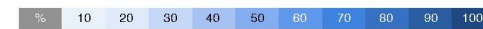


Base: Business respondents who use a subscription model
Q98: Which of the following subscription features is your company planning to implement in the next 12 months? (select all that apply)

Platforms company offers to subscribe to products

	US	China	Japan
Apple platforms	77%		
iOS	75%		
macOS	8%		
tvOS	1%		
Web	53%		
Android mobile	48%		
Game console	1%		
Other	4%		
Don't know	3%		

n= 73 small base small base



Base: Business respondents who use a subscription model
Q99: On which platforms does your company offer the opportunity to subscribe to its products? (select all that apply)

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Areas where company sees the most growth for subscription business on Apple platforms

	US	China	Japan
New user acquisition	66%		
Subscriber retention	52%		
Subscriber lifetime value	38%		
Customer engagement	36%		
Subscriber reactivation	18%		
Checkout conversion rate	7%		
None of the above	2%		
Don't know	11%		

n= 56 small base small base



Base: Business respondents who offer opportunity to subscribe to Apple platforms

Q100: In which of the following areas does your company see the most growth for its subscription business on Apple platforms? (select all that apply)

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Areas where company sees the most growth for subscription business on platforms other than Apple

	US	China	Japan
New user acquisition	74%		
Subscriber retention	63%		
Subscriber lifetime value	43%		
Customer engagement	41%		
Subscriber reactivation	24%		
Checkout conversion rate	20%		
Don't know	9%		

n=

54

small
base

small
base



Base: Business respondents who offer opportunity to subscribe to platforms other than Apple

Q101: In which of the following areas does your company see the most growth for its subscription business on other platforms? (select all that apply)

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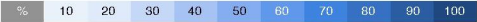
Marketing profile

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US: Annual marketing budget for apps

	US			
	Total	Small	Mid	Large
\$0	19%	21%	19%	17%
More than \$0 but less than \$10,000	50%	54%	50%	40% ↓
\$10,000 - \$99,999	10%	10%	8%	15% ↑
\$100,000 - \$999,999	4%	2%	5%	7% ↑
\$1,000,000 or more	1%	1%	1%	4% ↑
Don't know	3%	2%	5%	5% ↑
Prefer not to respond	11%	10%	13%	12%

n= 663 431 263 169



Base: Marketing respondents in the US and reached this point in the survey
F1_USA: What is your company's annual marketing budget for apps?
Note: Arrows denote comparisons to small tier within each country.

China: Annual marketing budget for apps

	China			
	Total	Small	Mid	Large
0 RMB	10%	13%	9%	4% ↓
More than 0 RMB but less than 50,000 RMB	28%	27%	32%	23%
50,000 - 199,999 RMB	18%	25%	15%	10% ↓
200,000 - 1,999,999 RMB	15%	12%	14%	21%
2,000,000 RMB or more	9%	3%	6%	24% ↑
Don't know	4%	3%	5%	3%
Prefer not to respond	17%	17%	18%	15%

n= 283 115 97 71

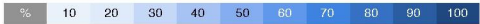


Base: Marketing respondents in China and reached this point in the survey
Q124_CHN: What is your company's annual marketing budget for apps?
Note: Arrows denote comparisons to small tier within each country.

Japan: Annual marketing budget for apps

Japan				
	Total	Small	Mid	Large
¥0	18%	22%	14%	
More than ¥0 but less than ¥249,999	35%	43%	33%	
¥250,000 - ¥999,999	7%	8%	9%	
¥1,000,000 - ¥9,999,999	6%	4%	8%	
¥10,000,000 or more	6%	0%	1%	
Don't know	16%	16%	19%	
Prefer not to respond	11%	8%	15%	

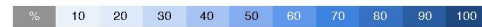
n= 238 115 78



Base: Marketing respondents in Japan and reached this point in the survey
Q125_JPN: What is your company's annual marketing budget for apps?
Note: Arrows denote comparisons to small tier within each country.

Percentage of app marketing budget allocated to user acquisition marketing for Apple apps

	US	China	Japan
0%	11%	2%	6%
1-24%	23%	20%	21%
25-49%	7%	18%	10%
50-74%	8%	18%	9%
75-99%	6%	5%	5%
100%	12%	6%	7%
Don't know	15%	8%	30%
Prefer not to respond	19%	21%	12%
n=	695	256	194

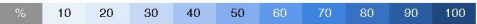


Base: Marketing budget is more than 0 and reached this point in the survey
 Q126: About what percentage of your company's app marketing budget is allocated to user acquisition marketing for Apple apps?

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Percentage of app marketing budget allocated to user acquisition marketing for Apple apps

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
0%	11%	10%	10%	13%	2%	2%	0%	4%	6%	6%	6%	
1-24%	23%	25%	21%	21%	20%	23%	23%	13%	21%	24%	18%	
25-49%	7%	9%	5%	7%	18%	18%	19%	18%	10%	10%	12%	
50-74%	8%	7%	9%	8%	18%	16%	16%	24%	9%	7%	4%	
75-99%	6%	5%	7%	6%	5%	2%	5%	12% ↑	5%	7%	4%	
100%	12%	14%	12%	8%	6%	5%	7%	7%	7%	4%	12%	
Don't know	15%	14%	15%	16%	8%	7%	14%	3%	30%	36%	27%	
Prefer not to respond	19%	16%	21%	21%	21%	27%	17%	19%	12%	7%	16%	
n=	695	341	213	141	256	100	88	68	194	90	67	small base



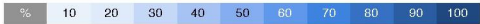
Base: Marketing budget is more than 0 and reached this point in the survey
Q126: About what percentage of your company's app marketing budget is allocated to user acquisition marketing for Apple apps?
Note: Arrows denote comparisons to small tier within each country.

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CONFIDENTIAL X

Percentage of app marketing budget allocated to retention marketing for Apple apps

	US	China	Japan
0%	20%	4%	10%
1-24%	28%	31%	19%
25-49%	4%	16%	7%
50-74%	1%	9%	3%
75-99%	1%	2%	2%
100%	2%	1%	3%
Don't know	17%	15%	42%
Prefer not to respond	20%	22%	15%

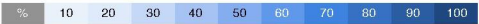
n= 695 256 194



Base: Marketing budget is more than 0 and reached this point in the survey
Q126: About what percentage of your company's app marketing budget is allocated to retention marketing for Apple apps?

Percentage of app marketing budget allocated to retention marketing for Apple apps

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
0%	20%	28%	20%	20%	4%	4%	2%	4%	10%	9%	12%	
1-24%	26%	28%	25%	22%	31%	26%	33%	35%	19%	21%	15%	
25-49%	4%	4%	5%	3%	16%	19%	13%	15%	7%	7%	4%	
50-74%	1%	1%	2%	2%	9%	8%	9%	10%	3%	2%	3%	
75-99%	1%	1%	0%	1%	2%	2%	2%	3%	2%	2%	3%	
100%	2%	3%	2%	1%	1%	2%	0%	1%	3%	2%	4%	
Don't know	17%	18%	15%	18%	15%	13%	20%	12%	42%	48%	36%	
Prefer not to respond	20%	17%	22%	23%	22%	26%	20%	19%	15%	9%	22%	↑
n=	695	341	213	141	256	100	88	68	194	90	67	small base

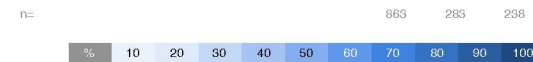


Base: Marketing budget is more than 0 and reached this point in the survey
Q126: About what percentage of your company's app marketing budget is allocated to retention marketing for Apple apps?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Top three most effective marketing activities for driving downloads on the App Store

	US	China	Japan
Word-of-mouth marketing	51%	38%	35%
Social media community outreach	29%	23%	25%
Social media advertising	26%	22%	22%
App Store featuring	19%	45%	45%
Email outreach	18%	3%	6%
Search engine referrals	17%	28%	20%
App Store product page optimization	12%	14%	16%
Influencer marketing	11%	11%	12%
PR outreach	11%	18%	12%
Other community outreach	10%	10%	11%
Cross promotion in my company's other apps	8%	13%	9%
Ad network advertising	6%	11%	12%
TV/print/radio/outdoor advertising	4%	6%	13%
Push notifications	4%	7%	3%
In-app messaging	2%	4%	1%
Cross promotion or advertising in other developers' apps	1%	13%	3%
Other	8%	1%	4%
Don't know	8%	3%	5%



Base: Marketing respondents

C1: Which are the top three most effective marketing activities for driving downloads of your company's apps on the App Store? (select up to three)

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Top three most effective marketing activities for driving downloads on the App Store

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Word-of-mouth marketing	51%	55%	50%	45% ↓	38%	37%	47%	27%	35%	43%	26% ↓	
Social media community outreach	29%	31%	28%	23% ↓	23%	26%	30%	10% ↓	25%	29%	23%	
Social media advertising	26%	28%	24%	25%	22%	26%	12% ↓	28%	22%	19%	24%	
App Store featuring	19%	16%	16%	33% ↑	45%	38%	47%	52%	45%	35%	50% ↑	
Email outreach	18%	18%	18%	17%	3%	4%	1%	1%	6%	7%	4%	
Search engine referrals	17%	17%	17%	17%	28%	24%	34%	27%	20%	19%	24%	
App Store product page optimization	12%	12%	11%	15%	14%	7%	18% ↑	21% ↑	16%	17%	15%	
Influencer marketing	11%	9%	11%	15% ↑	11%	16%	12%	1%	12%	10%	15%	
PR outreach	11%	8%	11%	15% ↑	18%	26%	14% ↓	10% ↓	12%	11%	13%	
Other community outreach	10%	10%	11%	9%	10%	10%	13%	4%	11%	17%	8%	
Cross promotion in my company's other apps	8%	5%	8%	15% ↑	13%	10%	14%	14%	9%	7%	8%	
Ad network advertising	6%	7%	5%	6%	11%	7%	7%	24% ↑	12%	6%	12%	
TV/print/radio/outdoor advertising	4%	4%	5%	4%	6%	6%	3%	10%	13%	8%	21% ↑	
Push notifications	4%	3%	3%	7%	7%	9%	5%	6%	3%	4%	1%	
In-app messaging	2%	2%	2%	4%	4%	4%	2%	4%	1%	1%	0%	
Cross promotion or advertising in other developers' apps	1%	1%	2%	2%	13%	10%	9%	21% ↑	3%	3%	3%	
Other	8%	8%	9%	8%	1%	1%	1%	0%	4%	3%	8%	
Don't know	8%	10%	8%	5% ↓	3%	3%	2%	6%	5%	7%	4%	
n=	863	431	263	169	263	115	97	71	238	115	78	small base
	%	10	20	30	40	50	60	70	80	90	100	

Base: Marketing respondents

C1: Which are the top three most effective marketing activities for driving downloads of your company's apps on the App Store? (select up to three)

Note: Arrows denote comparisons to small tier within each country.

APPLE
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Top three most effective marketing activities to keep existing users coming back

	US	China	Japan
Word-of-mouth marketing	29%	43%	29%
Push notifications	22%	17%	28%
Email outreach	19%	3%	7%
Social media community outreach	18%	21%	24%
Social media advertising	15%	15%	8%
Retargeting users	11%	27%	6%
In-app messaging	10%	15%	11%
App Store featuring	8%	30%	22%
Other community outreach	8%	6%	11%
Influencer marketing	8%	16%	6%
Search engine referrals	6%	17%	14%
Cross promotion in my other apps	6%	8%	7%
PR outreach	6%	12%	16%
App Store product page optimization	4%	13%	8%
Ad network advertising	2%	9%	5%
TV/print/radio/outdoor advertising	2%	4%	6%
Other	10%	1%	6%
Don't know	24%	6%	9%

n= 863 283 238



Base: Marketing respondents

C1_N_1: Which are the top three most effective marketing activities to keep existing users coming back to your company's apps? (select up to three)

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Top three most effective marketing activities to keep existing users coming back

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Word-of-mouth marketing	29%	31%	30%	21% ↓	43%	44%	42%	44%	29%	32%	23%	
Push notifications	22%	19%	21%	30% ↑	17%	12%	21%	21%	28%	18%	33% ↑	
Email outreach	19%	17%	19%	24%	3%	4%	3%	1%	7%	7%	6%	
Social media community outreach	18%	18%	18%	18%	21%	28%	16% ↓	17%	24%	23%	27%	
Social media advertising	15%	15%	16%	13%	15%	19%	12%	13%	8%	7%	6%	
Retargeting users	11%	12%	10%	9%	27%	30%	32%	16% ↓	8%	6%	8%	
In-app messaging	10%	8%	10%	17% ↑	15%	15%	16%	14%	11%	10%	12%	
App Store featuring	8%	7%	6%	14% ↑	30%	26%	28%	39%	22%	18%	32% ↑	
Other community outreach	8%	9%	7%	7%	6%	6%	6%	4%	11%	10%	14%	
Influencer marketing	8%	8%	6%	8%	16%	20%	14%	11%	6%	4%	5%	
Search engine referrals	6%	7%	7%	4%	17%	18%	17%	17%	14%	15%	14%	
Cross promotion in my other apps	6%	4%	6%	10% ↑	8%	6%	3%	17% ↑	7%	10%	3% ↓	
PR outreach	6%	5%	5%	8%	12%	16%	13%	6% ↓	16%	20%	12%	
App Store product page optimization	4%	4%	3%	3%	13%	14%	16%	10%	8%	10%	4%	
Ad network advertising	2%	3%	1%	2%	9%	7%	7%	14%	5%	4%	5%	
TV/print/radio/outdoor advertising	2%	2%	2%	2%	4%	4%	4%	6%	6%	5%	10%	
Other	10%	8%	12%	11%	1%	0%	1%	1%	8%	7%	12%	
Don't know	24%	27%	23%	19% ↓	6%	4%	9%	4%	9%	11%	8%	
n=	863	431	263	169	283	115	97	71	238	115	78	small base

Base: Marketing respondents

C1_N_1: Which are the top three most effective marketing activities to keep existing users coming back to your company's apps? (select up to three)

Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Channels most important in driving word-of-mouth marketing

	US	China	Japan
Organic social media	48%	47%	46%
App Store customer reviews	41%	49%	43%
Company and/or product website	32%	21%	20%
Influencer marketing	27%	32%	26%
Email	24%	6%	9%
App Store chart ranking	24%	56%	50%
App Store trending	23%	51%	33%
Public relations	19%	9%	10%
Physical mailers	2%	1%	4%
Other	5%	0%	2%
Don't know	12%	6%	6%

n= 863 283 238



Base: Marketing respondents
Q122: What channels are most important to driving word-of-mouth marketing? (select all that apply)

APPLE
CONFIDENTIAL 41

Channels most important in driving word-of-mouth marketing

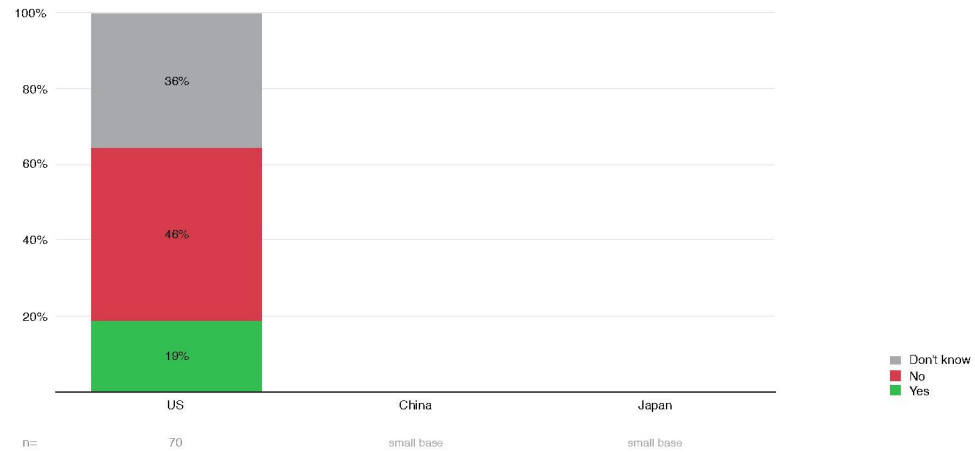
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Organic social media	48%	48%	47%	47%	47%	46%	47%	47%	46%	40%	45%	
App Store customer reviews	41%	38%	42%	45%	49%	43%	52%	55%	43%	40%	40%	
Company and/or product website	32%	34%	29%	32%	21%	30%	16% ↓	13% ↓	20%	24%	22%	
Influencer marketing	27%	25%	25%	33% ↑	32%	36%	32%	27%	28%	24%	27%	
Email	24%	26%	23%	21%	6%	10%	4%	1% ↓	9%	9%	12%	
App Store chart ranking	24%	21%	22%	35% ↑	56%	47%	60%	73% ↑	50%	43%	54%	
App Store trending	23%	22%	24%	26%	51%	44%	50%	65% ↑	33%	29%	41%	
Public relations	19%	20%	18%	20%	9%	12%	8%	3% ↓	10%	10%	9%	
Physical mailers	2%	3%	1%	2%	1%	1%	2%	0%	4%	4%	5%	
Other	5%	6%	6%	4%	0%	0%	1%	0%	2%	3%	1%	
Don't know	12%	11%	14%	11%	6%	5%	6%	6%	8%	10%	8%	



Base: Marketing respondents
 Q122: What channels are most important to driving word-of-mouth marketing? (select all that apply)
 Note: Arrows denote comparisons to small tier within each country.

APPLE
 CONFIDENTIAL X

Is company able to effectively drive download of iMessage app



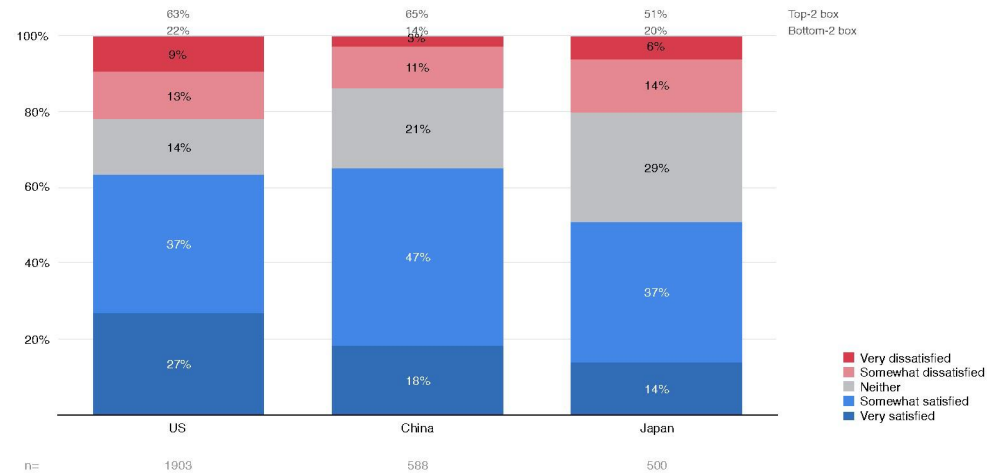
Base: Marketing respondents who develop for iMessage
Q104: Is your company able to effectively drive downloads of its iMessage app through its marketing?

APPLE
CONFIDENTIAL 42

Satisfaction with the App Store

APPLE CONFIDENTIAL 43

Satisfaction with the App Store



Base: All respondents
Q89: How satisfied are you with the App Store?

APPLE
CONFIDENTIAL 44

Reasons not satisfied with the App Store

	US	China	Japan
Inability to update metadata without binary submission	44%	32%	47%
Lack of functions which other platforms have	37%	23%	34%
No way to customize product page	36%	24%	24%
Unpredictable algorithm updates	32%	28%	31%
Lack of real-time monitoring for stability	28%	26%	26%
No personalized recommendations	26%	22%	39%
Lack of product page testing	24%	13%	29%
No Introductory pricing	21%	6%	14%
Behavioral data is opt-in	14%	15%	21%
Resources and tools are not fully localized	0%	23%	28%
Other (net)	65%	46%	48%
Other: Search and discoverability issues	19%	5%	14%
Other: Other specific complaint	10%	5%	10%
Other: Issues with publishing, deployment or review process	6%	4%	5%

n=

42382102

Base: Not satisfied with App Store (select all that apply)
Q90: Why do you say you are not satisfied with the App Store? (select all that apply)
Note: Categories under 5% are not displayed under 'Other (net)'. Respondents' comments to open ended questions were manually coded into categories. Some of these categories are predetermined, others are added as new themes receive a sufficient number of mentions. The percentages reported are calculated based on the number of mentions.

Reasons not satisfied with the App Store

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Inability to update metadata without binary submission	44%	43%	45%	44%	32%				47%	44%		
Lack of functions which other platforms have	37%	29%	42% ↑	47% ↑	23%				34%	35%		
No way to customize product page	36%	33%	38%	37%	24%				24%	27%		
Unpredictable algorithm updates	32%	29%	35%	35%	28%				31%	26%		
Lack of real-time monitoring for stability	28%	19%	35% ↑	36% ↑	28%				28%	22%		
No personalized recommendations	26%	25%	24%	29%	22%				39%	31%		
Lack of product page testing	24%	20%	28%	25%	13%				29%	29%		
No Introductory pricing	21%	21%	21%	22%	6%				14%	15%		
Behavioral data is opt-in	14%	8%	18% ↑	22% ↑	15%				21%	27%		
Resources and tools are not fully localized	NA	NA	NA	NA	23%				28%	26%		
Other	65%	67%	62%	62%	46%				48%	46%		
n=	423	189	133	101	82	small base	small base	small base	102	55	small base	small base
<div><div>%</div><div>10</div><div>20</div><div>30</div><div>40</div><div>50</div><div>60</div><div>70</div><div>80</div><div>90</div><div>100</div></div>												

Base: Not satisfied with App Store
Q90: Why do you say you are not satisfied with the App Store? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Satisfaction with elements of the App Store

Very or somewhat satisfied

	US	China	Japan
Provides the tools I need to successfully develop apps	68%	75%	61%
Enables profitability of my apps	38%	46%	32%
Enables discovery of my apps	37%	47%	24%
Provides the tools I need to successfully market apps	34%	40%	27%

n= 1903 588 500

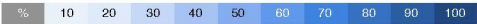


Base: All respondents
A10: How satisfied are you with the App Store on the following?

Satisfaction with elements of the App Store

Very or somewhat satisfied

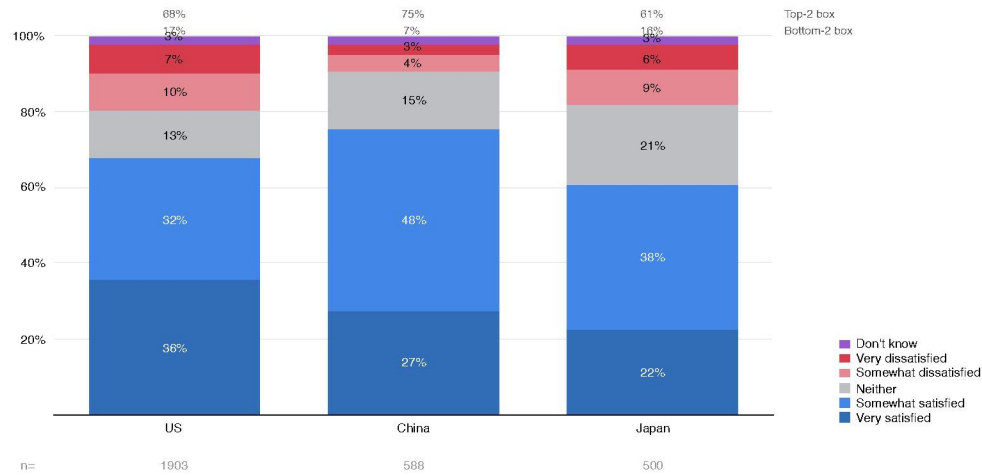
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Provides the tools I need to successfully develop apps	68%	66%	68%	71%	75%	72%	79%	77%	61%	64%	59%	56%
Enables profitability of my apps	98%	97%	97%	40%	46%	39%	51% ↑	55% ↑	92%	24%	96% ↑	43% ↑
Enables discovery of my apps	37%	38%	34%	38%	47%	47%	50%	42%	24%	20%	25%	31% ↑
Provides the tools I need to successfully market apps	34%	36%	31% ↓	35%	40%	42%	40%	35%	27%	29%	27%	25%
n=	1903	913	566	424	588	273	182	133	500	236	159	105



Base: All respondents
A10: How satisfied are you with the App Store on the following?
Note: Arrows denote comparisons to small tier within each country.

Satisfaction with elements of the App Store

Provides the tools I need to successfully develop apps

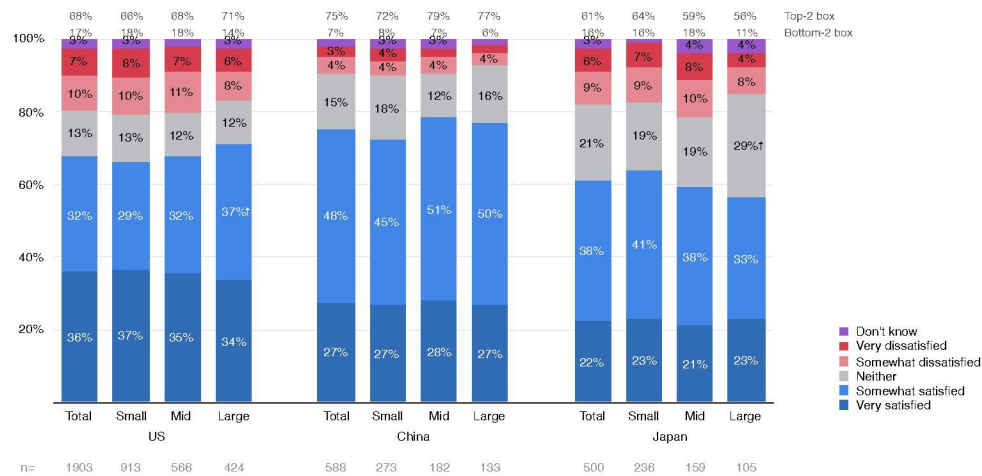


Base: All respondents
 A10: How satisfied are you with the App Store on the following?

APPLE
 CONFIDENTIAL 46

Satisfaction with elements of the App Store

Provides the tools I need to successfully develop apps

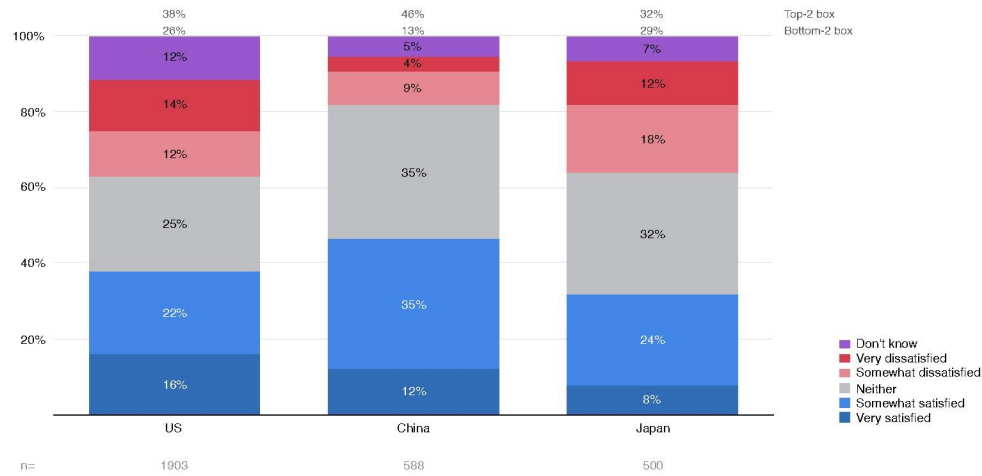


Base: All respondents
 A10: How satisfied are you with the App Store on the following?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
 CONFIDENTIAL X

Satisfaction with elements of the App Store

Enables profitability of my apps

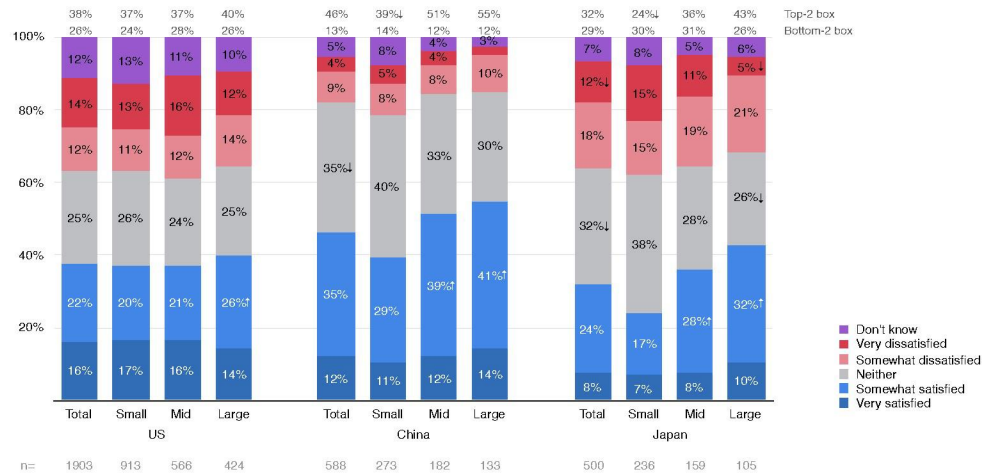


Base: All respondents
A10: How satisfied are you with the App Store on the following?

APPLE
CONFIDENTIAL 47

Satisfaction with elements of the App Store

Enables profitability of my apps

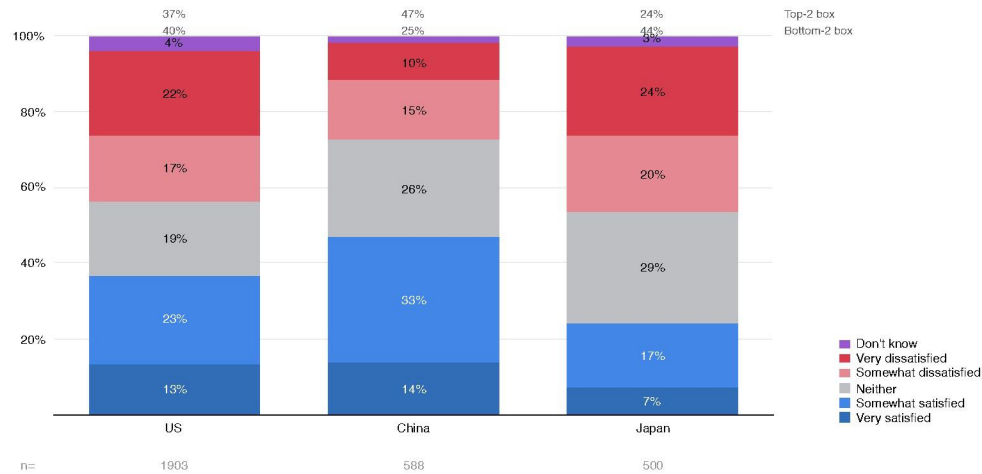


Base: All respondents
A10: How satisfied are you with the App Store on the following?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of the App Store

Enables discovery of my apps

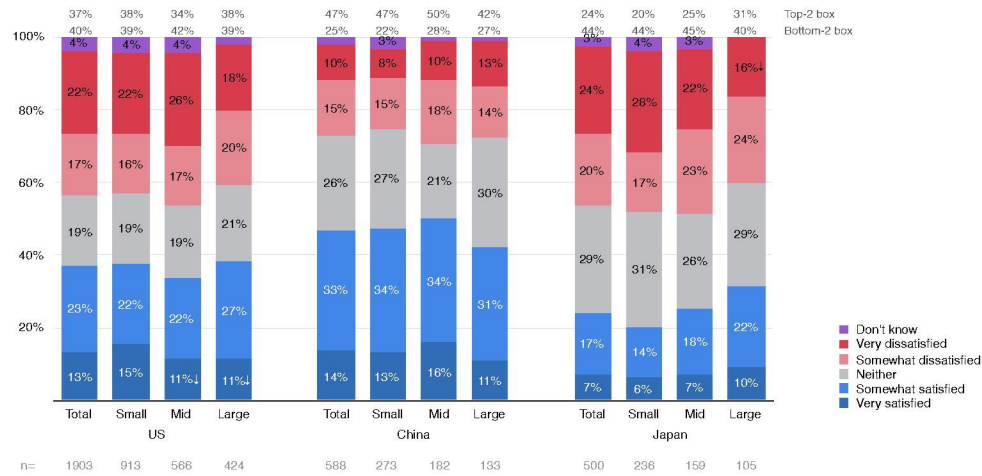


Base: All respondents
A10: How satisfied are you with the App Store on the following?

APPLE
CONFIDENTIAL 48

Satisfaction with elements of the App Store

Enables discovery of my apps

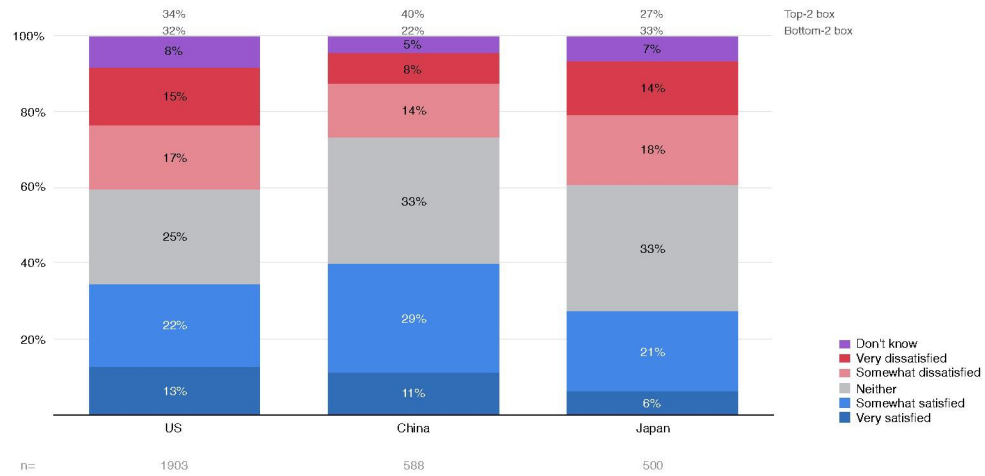


Base: All respondents
A10: How satisfied are you with the App Store on the following?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of the App Store

Provides the tools I need to successfully market apps

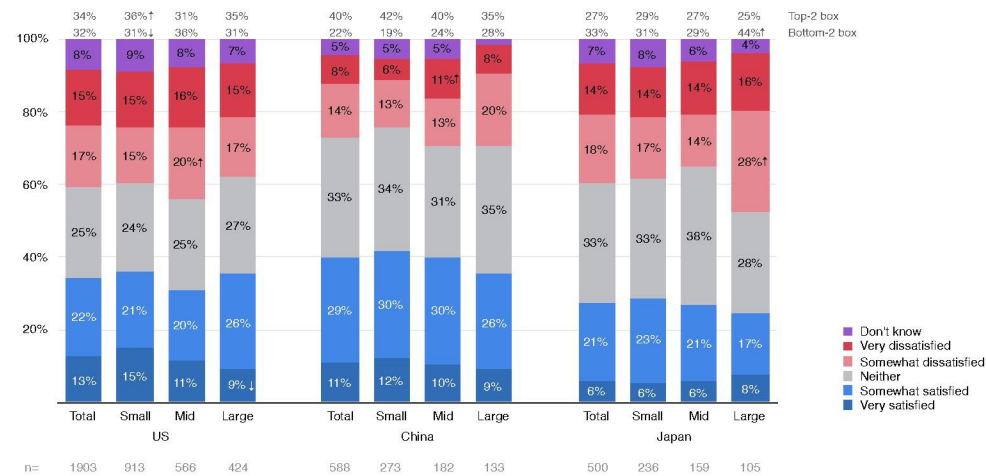


Base: All respondents
 A10: How satisfied are you with the App Store on the following?

APPLE
 CONFIDENTIAL 49

Satisfaction with elements of the App Store

Provides the tools I need to successfully market apps



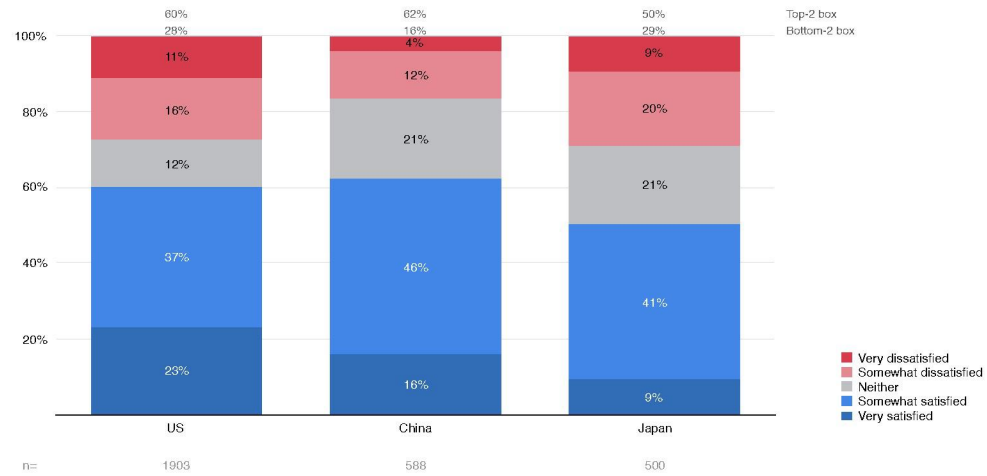
Base: All respondents
A10: How satisfied are you with the App Store on the following?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Guidance, tools, and services

APPLE CONFIDENTIAL 30

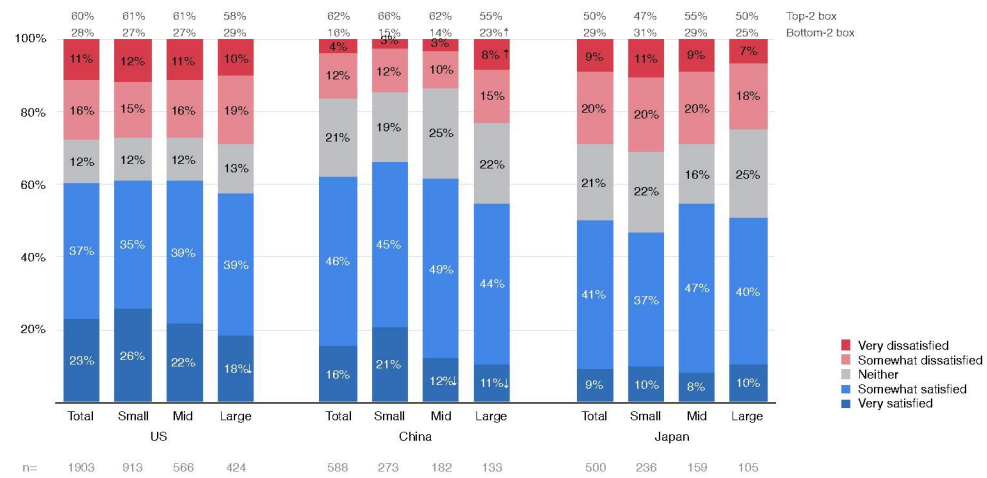
Satisfaction with support, services, and tools Apple provides



Base: All respondents
Q82: Overall, how satisfied are you with the support, services, and tools Apple provides to you as a developer?

APPLE
CONFIDENTIAL 51

Satisfaction with support, services, and tools Apple provides



Base: All respondents
Q82: Overall, how satisfied are you with the support, services, and tools Apple provides to you as a developer?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Reasons very and somewhat satisfied with support, services, and tools Apple provides

	US	China	Japan
Great/Complete set of tools, continuous improvement	11%	8%	
Effective communication with support and problem-solving	10%	12%	
Issues with publishing, deployment or review process	9%	6%	
Issues and changes to Xcode	6%	1%	
Want more options for marketing and ads, difficult to be seen	6%	2%	
Like Xcode	6%	3%	
Easy to use, intuitive, convenient (general)	5%	12%	
Customer service issues	5%	2%	
Good publishing, deployment and review process experience	5%	7%	
No response provided	22%	41%	

n=

1146

366

NA

Base: Very a % who said 20 30 40 50 60 70 80 90 100 %s

Q8SAB: Why do you say you are very/somewhat satisfied with the support, services, and tools Apple provides to you as a developer? (open-end)

Note: Categories under 5% are not displayed under 'Other (net)'. Respondents' comments to open ended questions were manually coded into categories. Some of these categories are predetermined, others are added as new themes receive a sufficient number of mentions. The percentages reported are calculated based on the number of mentions.

APPLE
CONFIDENTIAL X

Reason very and somewhat dissatisfied with support, services and tools Apple provides

	US	China	Japan
Issues with publishing, deployment or review process	30%	30%	
Issues and changes to Xcode	14%	9%	
Customer service issues	14%	24%	
Want more options for marketing and ads, difficult to be seen	14%	6%	
Not easy to use or intuitive (general)	13%	7%	
Other tools issues	12%	2%	
Signing, certificates and profiles issues	11%	2%	
Issues and changes to iTunes Connect	9%	4%	
Pricing issues	9%	0%	
Issues with OS-iOS	9%	1%	
Issues with distribution, payments and fee	8%	10%	
Compatibility issues (software and hardware)	8%	4%	
Issues and changes to TestFlight and overall testing	7%	1%	
Issues and changes to Swift	6%	3%	
Few opportunities for small developers	6%	0%	
Many updates and unannounced changes in Apple tools and services	6%	2%	
Issues and changes to analytics	5%	4%	
Search and discoverability issues	5%	3%	
Guidelines and policies issues	5%	4%	
Issues to update an app	5%	0%	
Documentation issues	5%	2%	

n=

525

96

NA

Base: Very and somewhat dissatisfied with the support, services, and tools Apple provides to you as a developer? (open-end)

Q8SDE: Why do you say you are very/somewhat dissatisfied with the support, services, and tools Apple provides to you as a developer? (open-end)

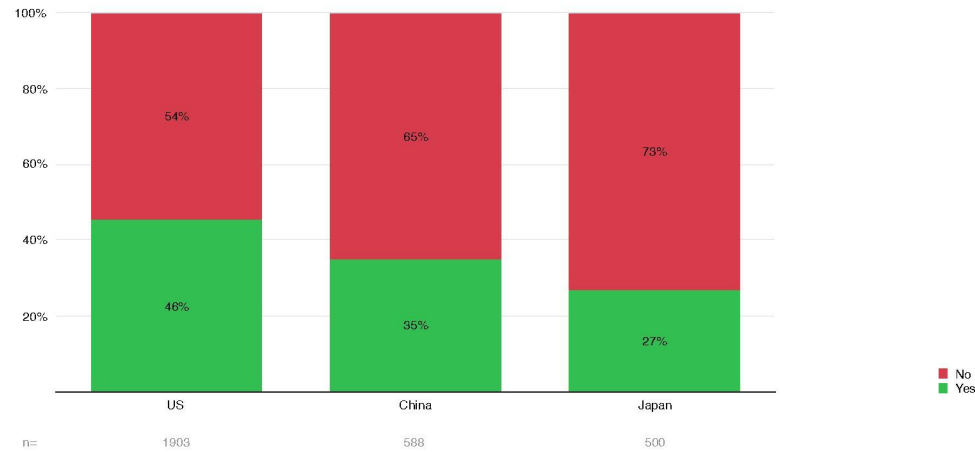
Note: Categories under 5% are not displayed under 'Other (net)'. Respondents' comments to open ended questions were manually coded into categories. Some of these categories are predetermined, others are added as new themes receive a sufficient number of mentions. The percentages reported are calculated based on the number of mentions.

APPLE
CONFIDENTIAL 52

Developer.apple.com/app-store

APPLE CONFIDENTIAL 53

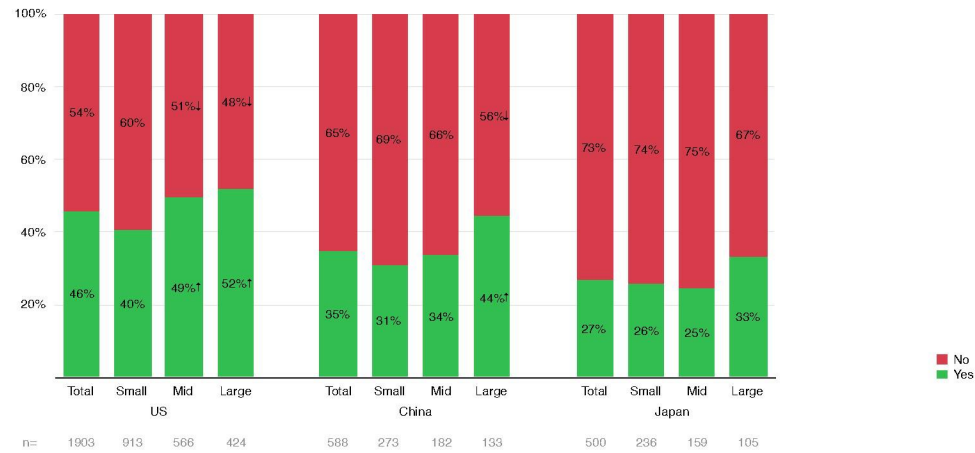
Awareness of developer business and marketing resources at developer.apple.com/app-store



Base: All respondents
Q107: Are you aware of the business and marketing resources available at developer.apple.com/app-store?

APPLE
CONFIDENTIAL 54

Awareness of developer business and marketing resources at developer.apple.com/app-store



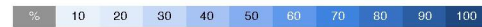
Base: All respondents
 Q107: Are you aware of the business and marketing resources available at developer.apple.com/app-store?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
 CONFIDENTIAL X

Source of awareness of business and marketing resources at developer.apple.com/app-store

	US	China	Japan
Developer.apple.com/app-store	58%	66%	61%
Internet searches	21%	24%	35%
Word of mouth from other developers I know	20%	24%	12%
Tech publications or industry forums	19%	20%	10%
Social media	8%	14%	12%
Other	4%	0%	2%
Don't know	10%	4%	2%

n= 867 205 135



Base: Aware of business and marketing resources

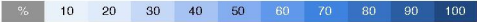
Q108: How did you hear about the business and marketing resources at developer.apple.com/app-store? (select all that apply)

APPLE
CONFIDENTIAL 55

Source of awareness of business and marketing resources at developer.apple.com/app-store

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Developer.apple.com/app-store	58%	59%	55%	59%	66%	66%	66%	66%	61%	69%		
Internet searches	21%	22%	20%	18%	24%	28%	16%	25%	35%	34%		
Word of mouth from other developers I know	20%	18%	21%	21%	24%	25%	36%	10% ↓	12%	8%		
Tech publications or industry forums	19%	22%	17%	16%	20%	19%	18%	22%	10%	5%		
Social media	8%	7%	9%	7%	14%	13%	12%	19%	12%	13%		
Other	4%	4%	5%	4%	0%	0%	0%	0%	2%	0%		
Don't know	10%	8%	10%	11%	4%	4%	8%	0%	2%	2%		

n= 867 368 280 219 205 85 61 59 135 61 small base small base



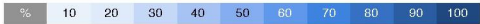
Base: Aware of business and marketing resources
Q108: How did you hear about the business and marketing resources at developer.apple.com/app-store? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

When last visited business and marketing resources at developer.apple.com/app-store

	US	China	Japan
Within the last week	8%	27%	9%
Between one week and up to one month ago	10%	20%	18%
Between 1 month and up to 6 months ago	27%	17%	24%
Between 6 months and up to one year ago	19%	5%	9%
One year or more ago	12%	5%	6%
I don't remember	24%	25%	35%

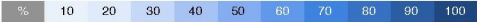
n= 867 205 135



Base: Aware of business and marketing resources
Q109: When was the last time you visited the business and marketing resources at developer.apple.com/app-store?

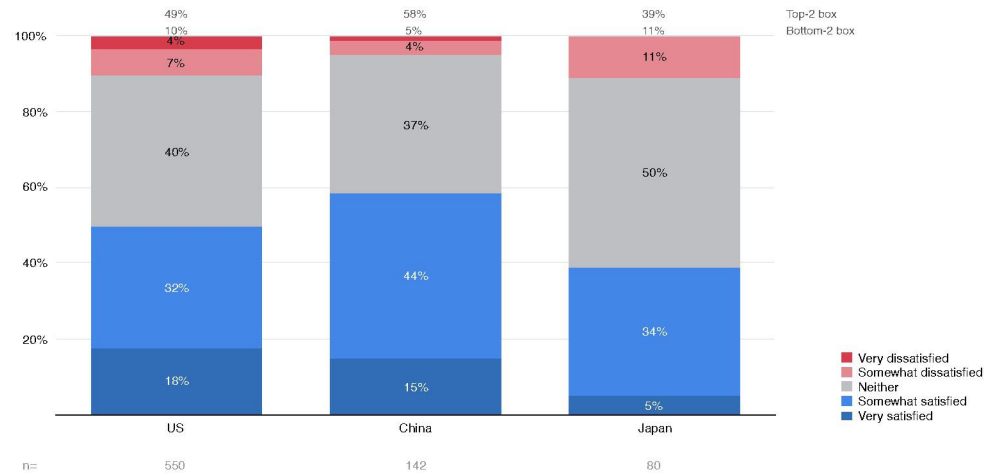
When last visited business and marketing resources at developer.apple.com/app-store

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Within the last week	8%	10%	6%	6%	27%	27%	28%	27%	9%	2%		
Between one week and up to one month ago	10%	9%	9%	14%	20%	24%	18%	19%	18%	16%		
Between 1 month and up to 6 months ago	27%	29%	26%	24%	17%	14%	15%	22%	24%	25%		
Between 6 months and up to one year ago	19%	17%	19%	21%	5%	5%	5%	5%	9%	7%		
One year or more ago	12%	14%	10%	12%	5%	6%	2%	8%	6%	10%		
I don't remember	24%	21%	30% ↑	23%	25%	25%	33%	19%	35%	41%		
n=	867	368	280	219	205	85	61	59	135	61	small base	small base



Base: Aware of business and marketing resources
Q109: When was the last time you visited the business and marketing resources at developer.apple.com/app-store?
Note: Arrows denote comparisons to small tier within each country.

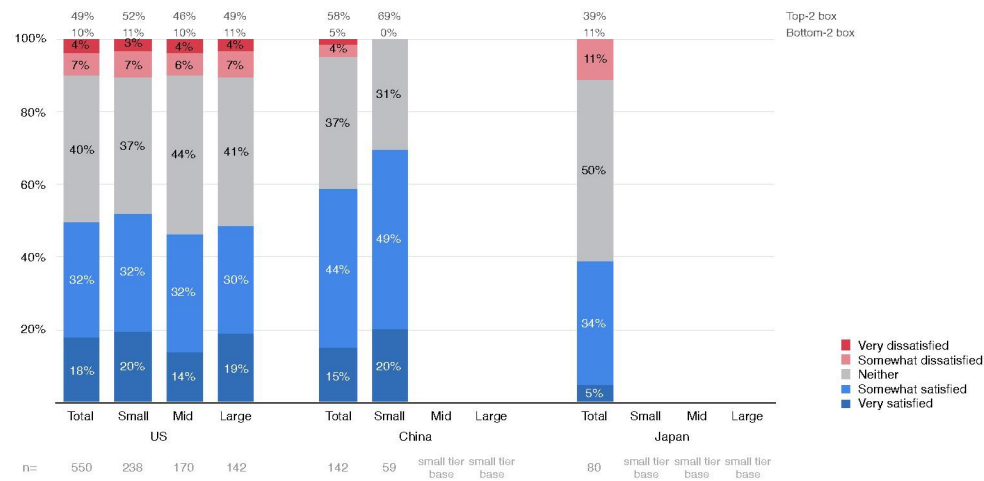
Satisfaction with business and marketing resources at developer.apple.com/app-store



Base: Aware of business and marketing resources and visited up to one year ago
Q110: How satisfied are you with the business and marketing resources at developer.apple.com/app-store?

APPLE
CONFIDENTIAL 57

Satisfaction with business and marketing resources at developer.apple.com/app-store



Base: Aware of business and marketing resources and visited up to one year ago
Q110: How satisfied are you with the business and marketing resources at developer.apple.com/app-store?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Reasons dissatisfied with business and marketing resources at developer.apple.com/app-store

	US	China	Japan
Information too broad, not actionable	67%		
Lack of relevant recommendations	49%		
Guidance not relevant to my app	35%		
Lack of benchmark data	25%		
Site-wide search by topic does not work	12%		
Would like to see more articles vs videos	11%		
Would like to see more videos vs articles	7%		
Lack of localization	7%		
Other	25%		

n= 57 small base small base



Base: Somewhat or very dissatisfied with business and marketing resources
Q111: Why do you say you are not satisfied with the business and marketing resources at developer.apple.com/app-store? (select all that apply)

Satisfaction with elements of business and marketing

Very or somewhat satisfied

	US	China	Japan
Ease of use	43%	57%	30%
Quality of guidance	39%	59%	33%
Access to related resources	37%	56%	33%
Helps improve my business and marketing decisions	30%	48%	30%
n=	867	205	135



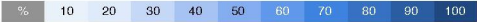
Base: Aware of business and marketing resources
Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store/ on the following

APPLE
CONFIDENTIAL X

Satisfaction with elements of business/marketing

Very or somewhat satisfied

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Ease of use	43%	43%	43%	42%	57%	60%	59%	51%	30%	30%		
Quality of guidance	39%	40%	37%	37%	59%	61%	56%	58%	33%	26%		
Access to related resources	37%	39%	37%	36%	56%	61%	48%	56%	33%	33%		
Helps improve my business and marketing decisions	30%	33%	29%	28%	48%	54%	41%	47%	30%	25%		
n=	867	368	260	219	205	85	61	59	135	61	small base	small base

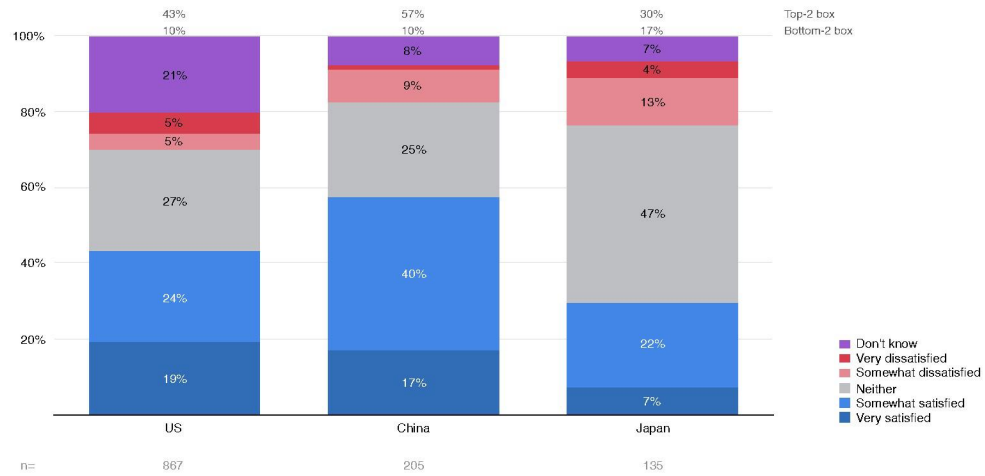


Base: Aware of business and marketing resources
Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of business and marketing

Ease of use



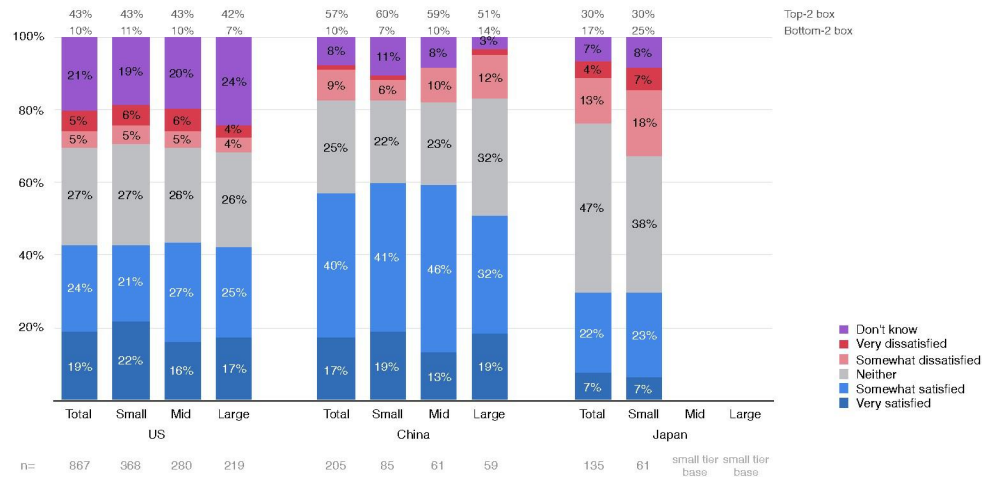
Base: Aware of business and marketing resources

Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following

APPLE
CONFIDENTIAL 59

Satisfaction with elements of business and marketing

Ease of use

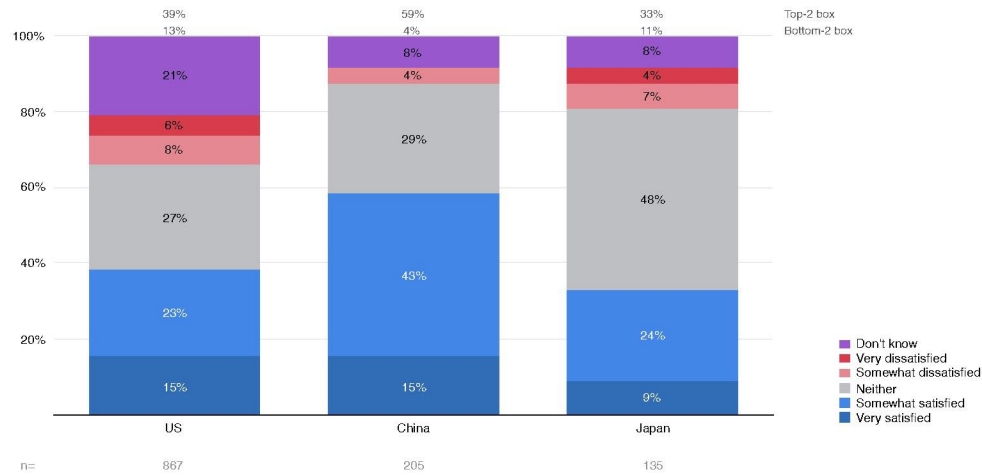


Base: Aware of business and marketing resources
 Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following
 Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of business and marketing

Quality of guidance



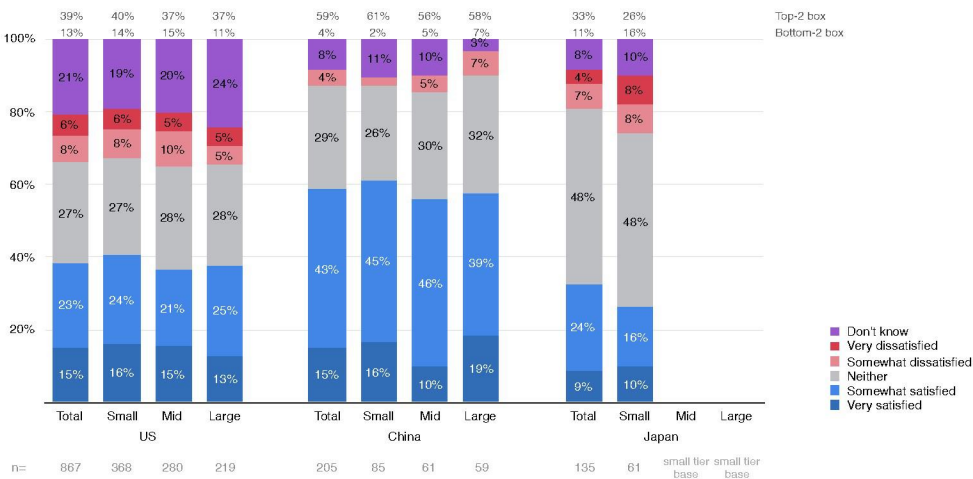
Base: Aware of business and marketing resources

Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following

APPLE
CONFIDENTIAL 60

Satisfaction with elements of business and marketing

Quality of guidance

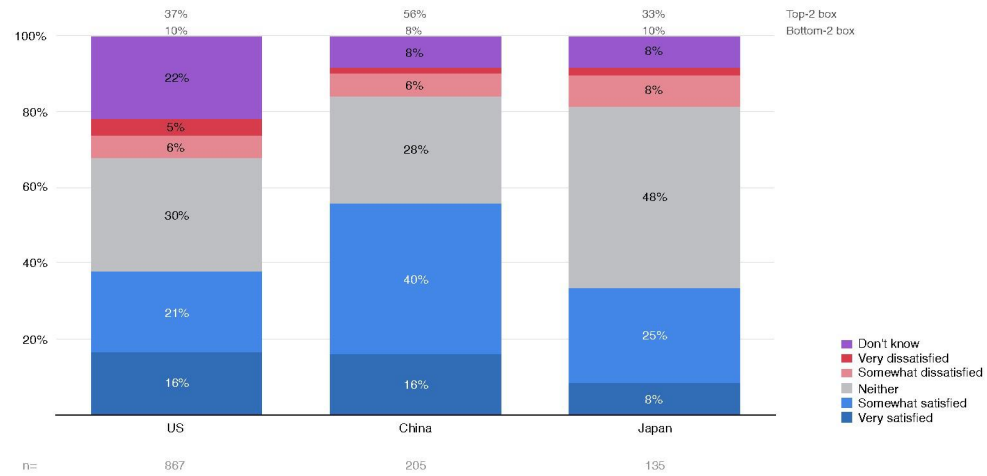


Base: Aware of business and marketing resources
Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of business and marketing

Access to related resources



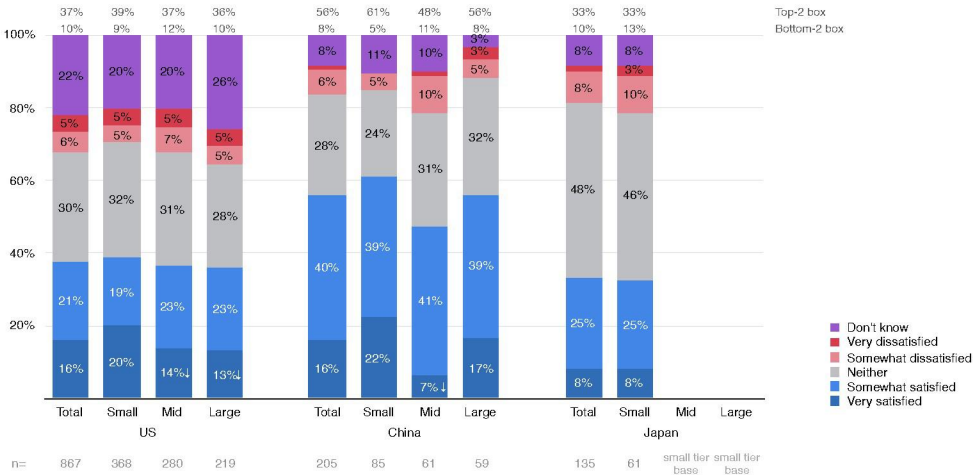
Base: Aware of business and marketing resources

Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following

APPLE
CONFIDENTIAL 61

Satisfaction with elements of business and marketing

Access to related resources

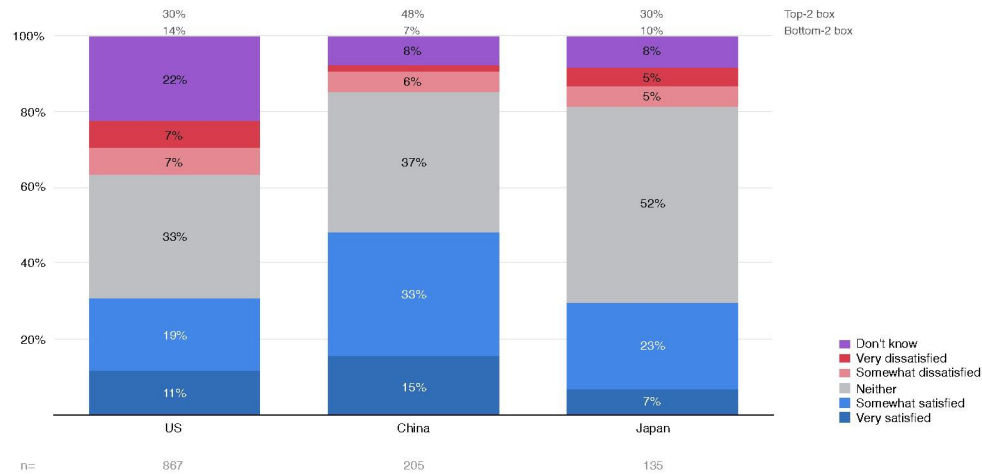


Base: Aware of business and marketing resources
Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of business and marketing

Helps improve my business

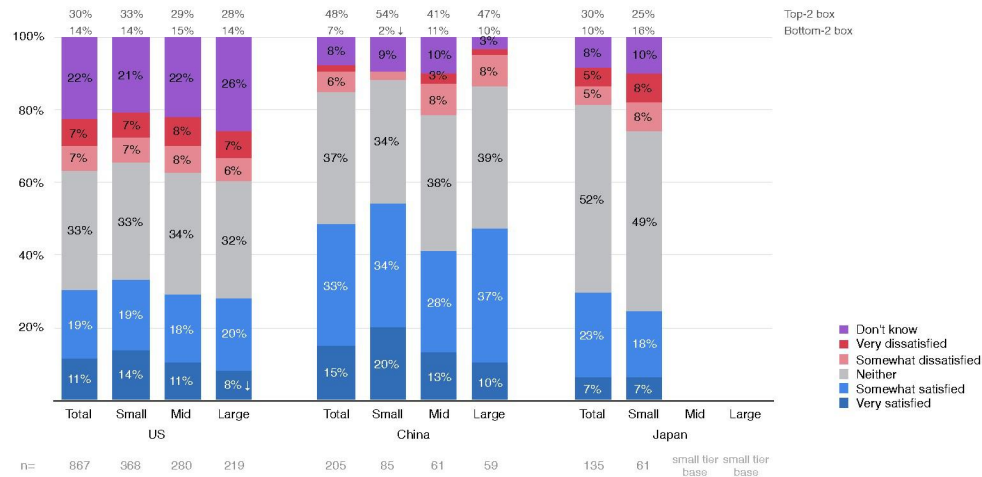


Base: Aware of business and marketing resources
Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store/ on the following

APPLE
CONFIDENTIAL 62

Satisfaction with elements of business and marketing

Helps improve my business



Base: Aware of business and marketing resources
 Q112: How satisfied are you with the business and marketing resources at developer.apple.com/app-store on the following
 Note: Arrows denote comparisons to small tier within each country.

APPLE
 CONFIDENTIAL X

App business and marketing resources interested in learning more about from Apple

	US	China	Japan
App Store promotion	52%	61%	45%
App Store optimization	50%	54%	43%
User acquisition	46%	57%	59%
Engagement and retention	40%	53%	40%
Launch strategies	36%	30%	25%
Pricing/monetization strategies	33%	23%	34%
Business models	26%	26%	29%
Identifying user segments	24%	45%	29%
Competitive benchmarking	20%	33%	24%
International expansion strategies	15%	23%	23%
Other	3%	1%	2%
None of the these	19%	8%	6%

n= 1903 588 500



Base: All respondents

D11_N_1: What app business and marketing resources are you interested in learning more about from Apple? (select all that apply)

APPLE
CONFIDENTIAL 63

App business and marketing resources interested in learning more about from Apple

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
App Store promotion	52%	49%	51%	59% ↑	61%	54%	62%	73% ↑	45%	39%	50% ↑	53% ↑
App Store optimization	50%	46%	50%	59% ↑	54%	41%	59% ↑	74% ↑	43%	30%	50% ↑	61% ↑
User acquisition	46%	44%	46%	50%	57%	53%	60%	59%	59%	55%	62%	63%
Engagement and retention	40%	38%	36%	49% ↑	53%	49%	56%	56%	40%	32%	43% ↑	53% ↑
Launch strategies	36%	34%	37%	40% ↑	30%	30%	29%	32%	25%	23%	22%	32%
Pricing/monetization strategies	33%	33%	30%	36%	23%	22%	26%	20%	34%	31%	37%	35%
Business models	26%	26%	22% ↓	27%	26%	27%	28%	23%	29%	29%	30%	31%
Identifying user segments	24%	22%	24%	27% ↑	45%	42%	44%	53% ↑	29%	24%	29%	39% ↑
Competitive benchmarking	20%	17%	19%	27% ↑	33%	27%	35%	42% ↑	24%	16%	26% ↑	38% ↑
International expansion strategies	15%	14%	13%	18%	23%	19%	28% ↑	25%	23%	18%	25%	33% ↑
Other	3%	3%	3%	2%	1%	0%	1%	1%	2%	2%	1%	1%
None of the these	19%	21%	20%	13% ↓	8%	12%	3% ↓	6%	6%	8%	4%	4%
n=	1903	913	566	424	588	273	182	133	500	236	159	105

Base: All respondents

D11_N_1: What app business and marketing resources are you interested in learning more about from Apple? (select all that apply)

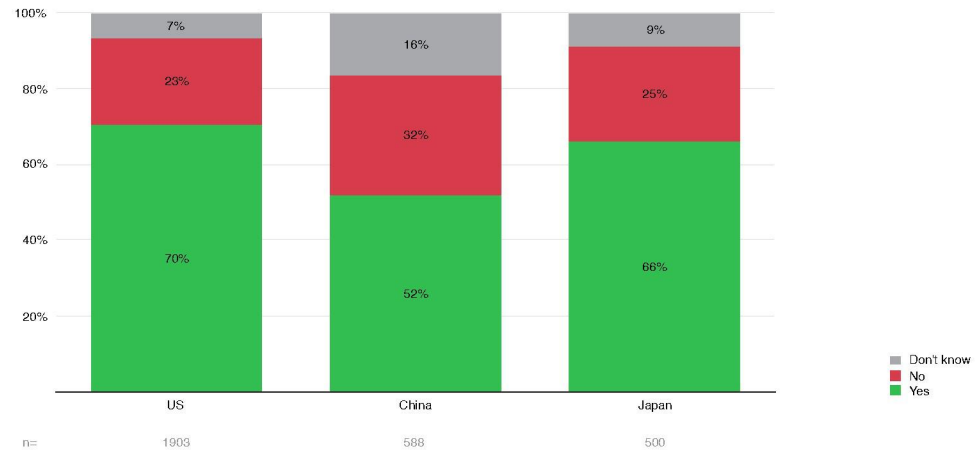
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

App Analytics

APPLE CONFIDENTIAL 64

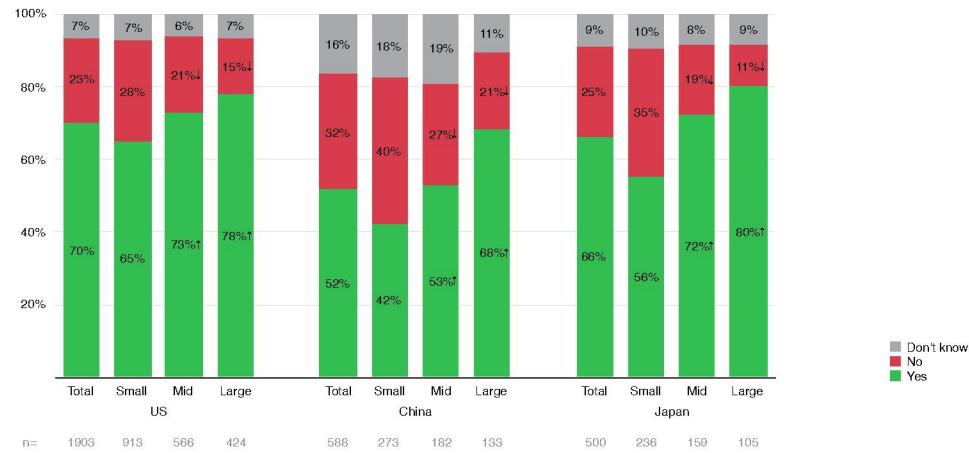
Use of App Analytics on iTunes Connect



Base: All respondents
D11_N_3: Has your company used App Analytics on iTunes Connect?

APPLE
CONFIDENTIAL 65

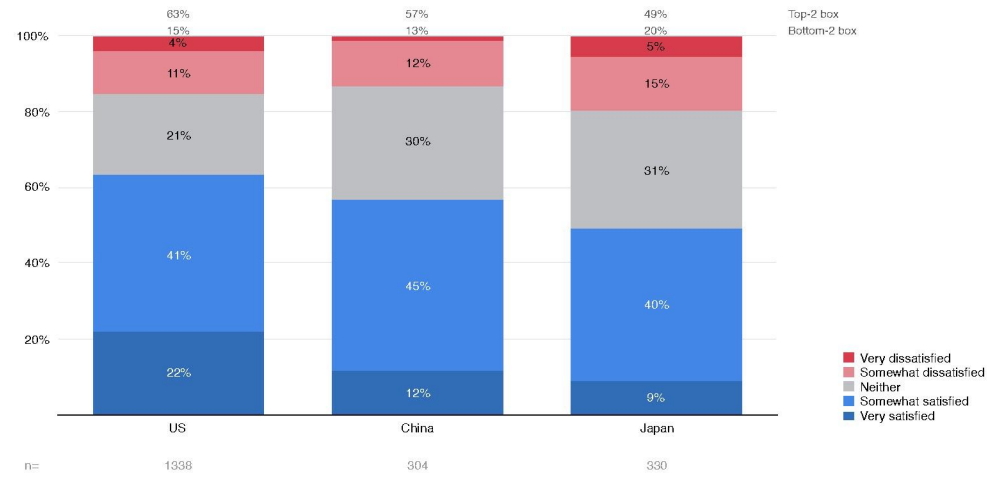
Use of App Analytics on iTunes Connect



Base: All respondents
D11_N_3: Has your company used App Analytics on iTunes Connect?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

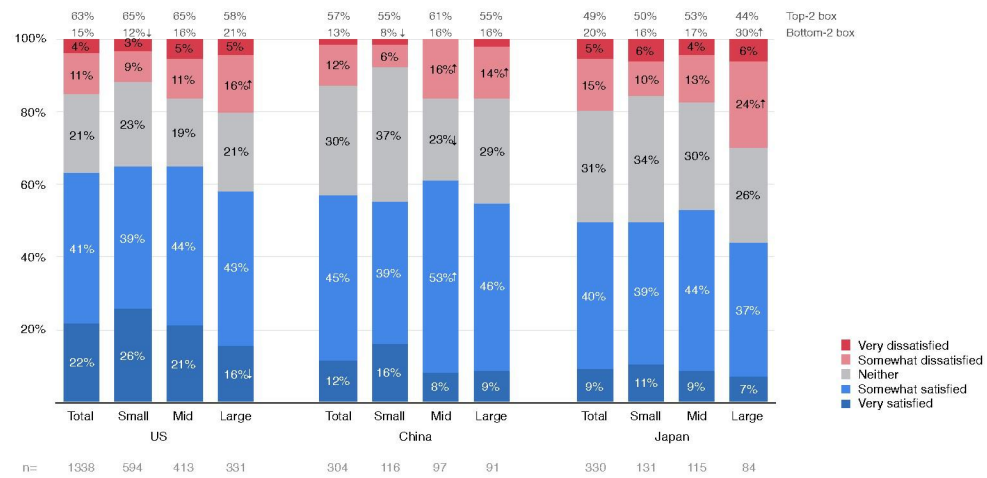
Satisfaction with App Analytics



Base: Has used App Analytics on iTunes Connect
Q114: How satisfied are you with App Analytics?

APPLE
CONFIDENTIAL 68

Satisfaction with App Analytics

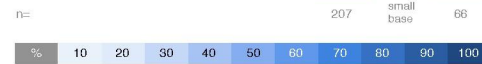


Base: Has used App Analytics on iTunes Connect
 Q114: How satisfied are you with App Analytics?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Reasons not satisfied with App Analytics

	US	China	Japan
Data not granular enough	61%		73%
Lack of uninstalls/deletions	55%		58%
Data is not real-time	53%		55%
No way to look at user flow funnel data	48%		44%
Usage data is opt-in	46%		56%
No way to look at data by unique user	44%		52%
No API to export data	37%		30%
Inability to calculate LTV	23%		38%
No subscriptions metrics	19%		20%
IAP metrics are not by SKU	16%		20%
Other	24%		18%



Base: Somewhat or very dissatisfied with App Analytics
Q115: Why do you say you are not satisfied with App Analytics? (select all that apply)

APPLE
CONFIDENTIAL 67

Reasons not satisfied with App Analytics

	US				China				Japan						
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large			
Data not granular enough	61%	58%	59%	66%					73%						
Lack of uninstalls/deletions	55%	45%	54%	66% ↑					58%						
Data is not real-time	53%	44%	63% ↑	53%					55%						
No way to look at user flow funnel data	48%	47%	43%	56%					44%						
Usage data is opt-in	46%	37%	41%	62% ↑					56%						
No way to look at data by unique user	44%	42%	44%	44%					52%						
No API to export data	37%	25%	40%	46% ↑					30%						
Inability to calculate LTV	23%	17%	32% ↑	21%					38%						
No subscriptions metrics	19%	16%	24%	19%					20%						
IAP metrics are not by SKU	16%	16%	15%	18%					20%						
Other	24%	24%	31%	18%					18%						
n=	207	71	68	68	small base	small base	small base	small base	66	small base	small base	small base			
					%	10	20	30	40	50	60	70	80	90	100

Base: Somewhat or very dissatisfied with App Analytics
Q115: Why do you say you are not satisfied with App Analytics? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Satisfaction with elements of App Analytics

Very or somewhat satisfied

	US	China	Japan
User interface	59%	62%	45%
Quality of data	57%	58%	47%
Helps improve my business decisions	47%	47%	46%
Ability to export data at scale	35%	52%	21%

n= 1338 304 330



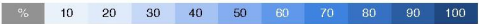
Base: Has used App Analytics on iTunes Connect
D11_N_4: How would you rate App Analytics on the following?

APPLE
CONFIDENTIAL X

Satisfaction with elements of App Analytics

Very or somewhat satisfied

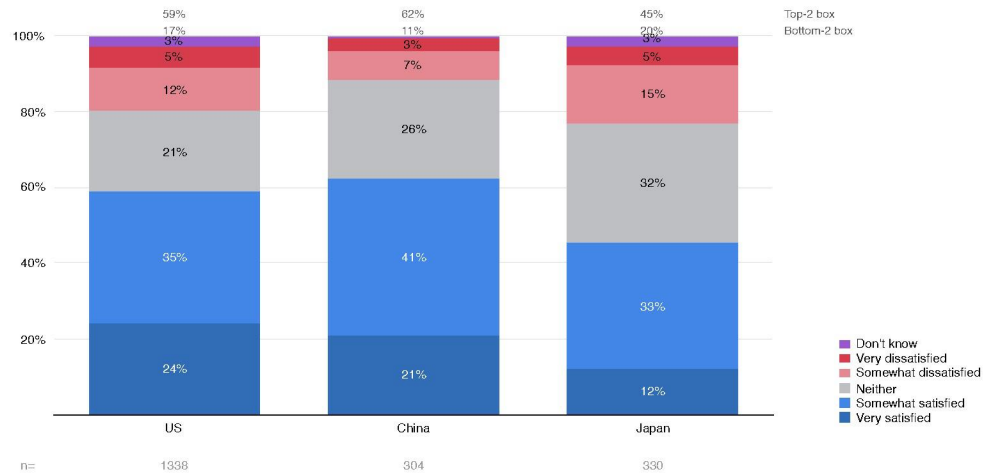
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
User interface	59%	59%	59%	58%	62%	70%	60%	55% ↓	45%	52%	42%	39%
Quality of data	57%	60%	54%	54%	58%	65%	55%	53%	47%	51%	50%	37% ↓
Helps improve my business decisions	47%	48%	46%	47%	47%	44%	51%	48%	46%	44%	46%	48%
Ability to export data at scale	35%	37%	35%	31%	52%	57%	47%	52%	21%	22%	17%	23%
n=	1338	594	413	331	304	116	97	91	330	131	115	84



Base: Has used App Analytics on iTunes Connect
D11_N_4: How would you rate App Analytics on the following?
Note: Arrows denote comparisons to small tier within each country.

Satisfaction with elements of App Analytics

User interface

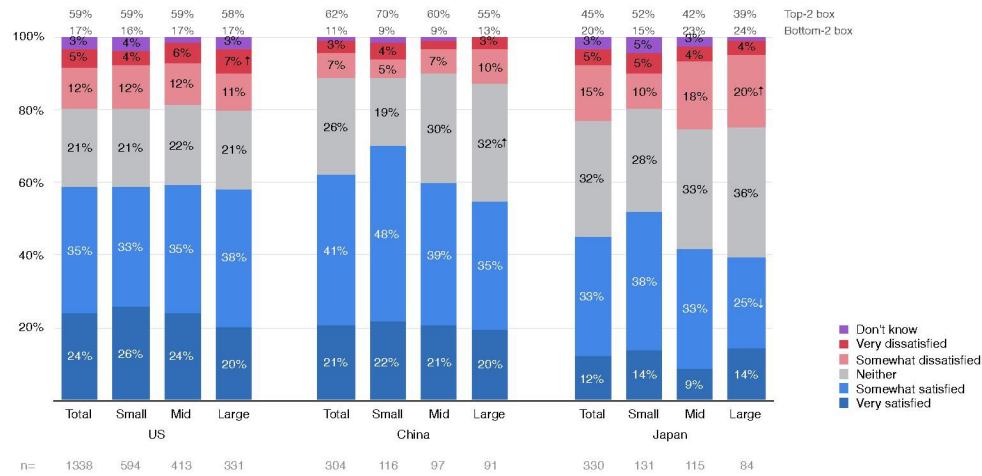


Base: Has used App Analytics on iTunes Connect
D11_N_4: How would you rate App Analytics on the following?

APPLE
CONFIDENTIAL 68

Satisfaction with elements of App Analytics

User interface

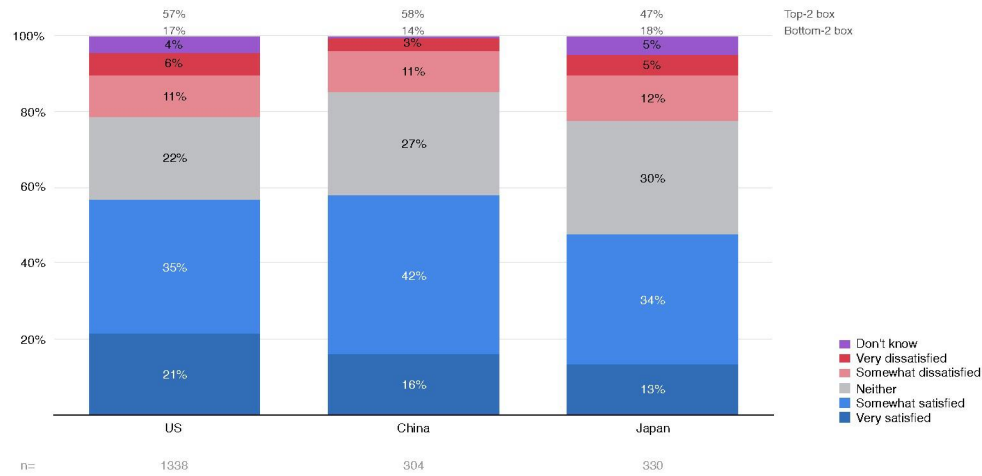


Base: Has used App Analytics on iTunes Connect
D11_N_4: How would you rate App Analytics on the following?
Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of App Analytics

Quality of data

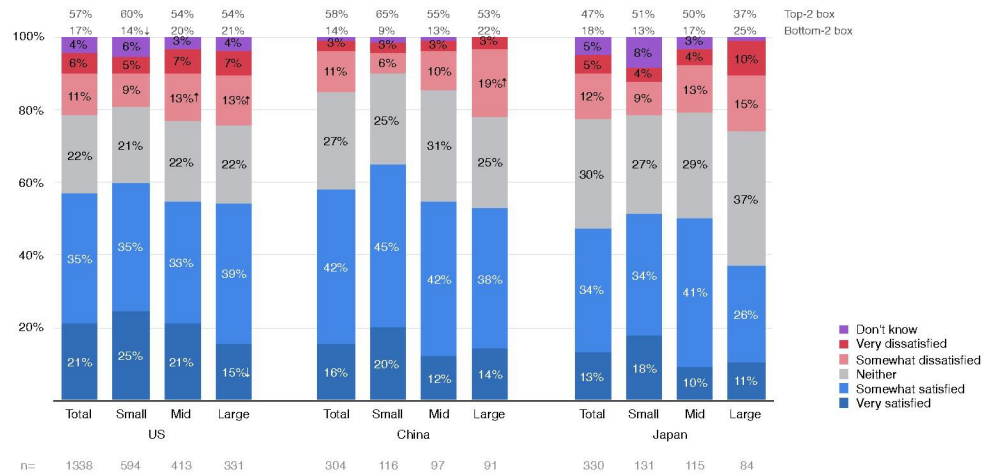


Base: Has used App Analytics on iTunes Connect
D11_N_4: How would you rate App Analytics on the following?

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CONFIDENTIAL 69

Satisfaction with elements of App Analytics

Quality of data

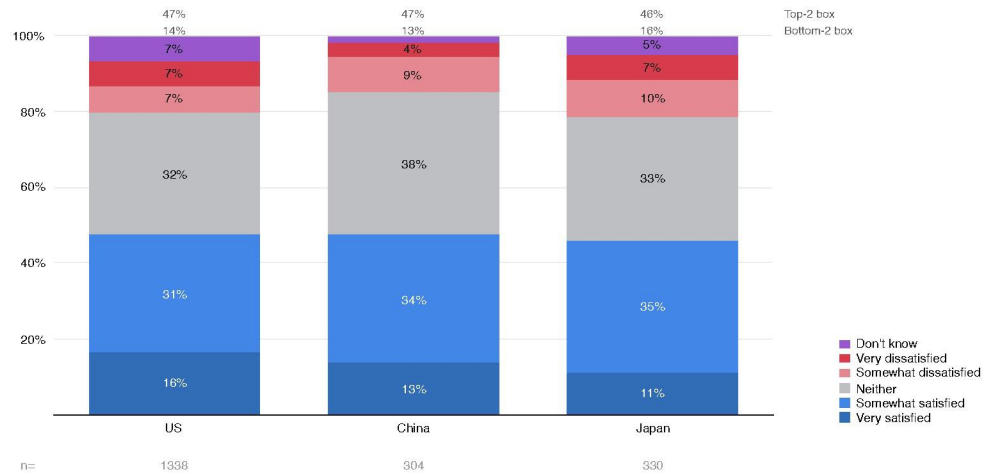


Base: Has used App Analytics on iTunes Connect
 D11_N_4: How would you rate App Analytics on the following?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of App Analytics

Helps improve my business decisions

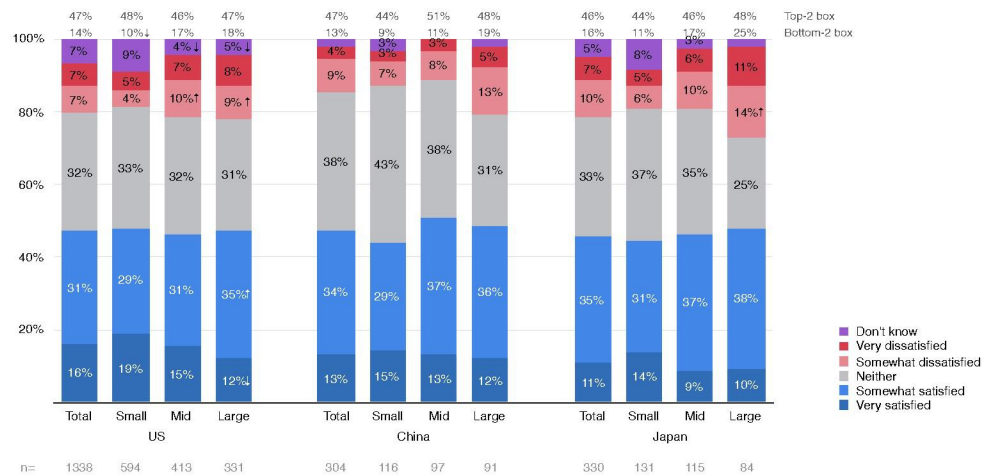


Base: Has used App Analytics on iTunes Connect
 D11_N_4: How would you rate App Analytics on the following?

APPLE
 CONFIDENTIAL 70

Satisfaction with elements of App Analytics

Helps improve my business decisions

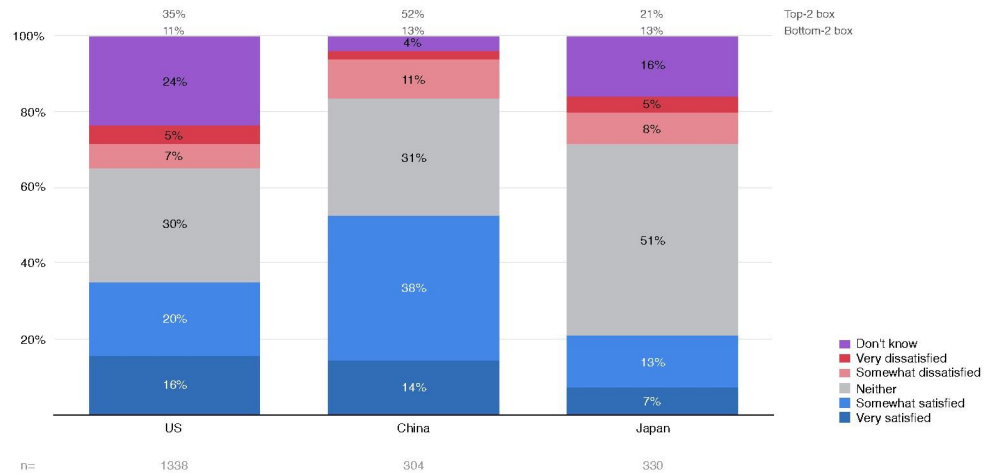


Base: Has used App Analytics on iTunes Connect
 D11_N_4: How would you rate App Analytics on the following?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Satisfaction with elements of App Analytics

Ability to export data at scale



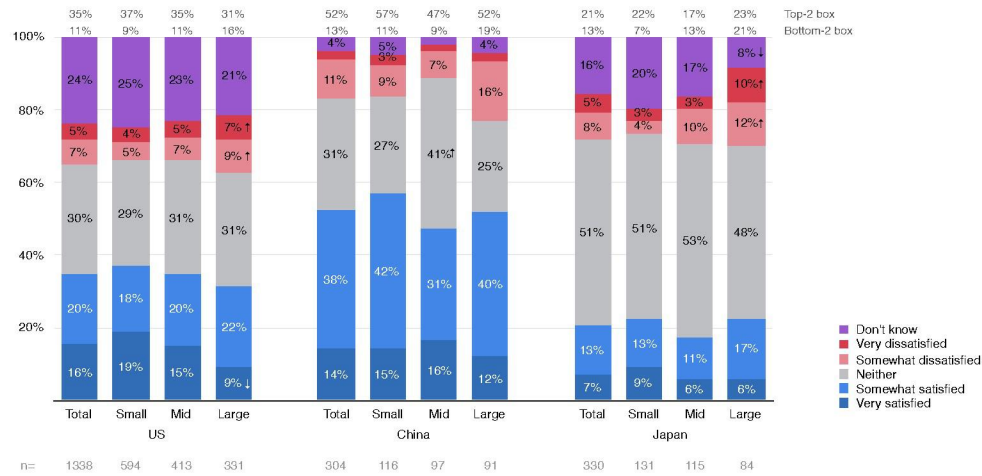
Base: Has used App Analytics on iTunes Connect
D11_N_4: How would you rate App Analytics on the following?

APPLE
CONFIDENTIAL 71

Satisfaction with elements of App Analytics

Ability to export data at scale

Ability to export data at scale



Base: Has used App Analytics on iTunes Connect
 D11_N_4: How would you rate App Analytics on the following?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Requested features for App Analytics

	US	China	Japan
App Store search keyword insights	58%	72%	61%
Demographic data for app users	54%	50%	53%
Faster access to data (less than 24 hours)	48%	57%	49%
Benchmarks against similar apps	43%	45%	48%
Diagnostic data	42%	33%	36%
Custom in-app events	40%	46%	28%
Organic app referrer data as a source	37%	39%	46%
API access to App Analytics data	31%	44%	33%
More detailed information on in-app purchase (IAP) behavior	27%	34%	27%
More options for filter campaigns, such as ad network, site ID and creative variations	19%	30%	22%
More parameters in campaign links	15%	35%	12%
Other	6%	1%	4%
Don't know	11%	3%	6%

n=

1338

304

330



Base: Has used App Analytics on iTunes Connect

D11_N_5: What features would you like to see in App Analytics? (select all that apply)

APPLE
CONFIDENTIAL

72

Requested features for App Analytics

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
App Store search keyword insights	58%	55%	58%	64% ↑	72%	63%	73%	81% ↑	61%	55%	64%	68%
Demographic data for app users	54%	52%	58%	53%	50%	44%	55%	52%	53%	46%	51%	60% ↑
Faster access to data (less than 24 hours)	46%	45%	48%	49%	57%	54%	59%	59%	49%	46%	51%	51%
Benchmarks against similar apps	43%	38%	43%	51% ↑	45%	40%	46%	51%	48%	41%	51%	55% ↑
Diagnostic data	42%	41%	40%	45%	33%	36%	30%	32%	36%	31%	39%	42%
Custom in-app events	40%	31%	45% ↑	50% ↑	46%	43%	45%	50%	28%	21%	33% ↑	32%
Organic app referrer data as a source	37%	33%	36%	44% ↑	39%	31%	44% ↑	44%	46%	41%	46%	52%
API access to App Analytics data	31%	29%	32%	36% ↑	44%	46%	40%	46%	33%	21%	40% ↑	44% ↑
More detailed information on in-app purchase (IAP) behavior	27%	25%	27%	31% ↑	34%	30%	39%	34%	27%	21%	29%	35% ↑
More options for filter campaigns, such as ad network, site ID and creative	19%	19%	18%	21%	30%	22%	30%	41% ↑	22%	15%	21%	32% ↑
More parameters in campaign links	15%	15%	15%	15%	35%	29%	33%	43% ↑	12%	6%	10%	25% ↑
Other	6%	6%	7%	5%	1%	1%	3%	0%	4%	5%	4%	1%
Don't know	11%	12%	12%	9%	3%	2%	2%	7%	6%	6%	7%	5%
n=	1338	594	413	331	304	116	97	91	330	131	115	84
<div><div>%</div><div>10</div><div>20</div><div>30</div><div>40</div><div>50</div><div>60</div><div>70</div><div>80</div><div>90</div><div>100</div></div>												

Base: Has used App Analytics on iTunes Connect
D11_N_5: What features would you like to see in App Analytics? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

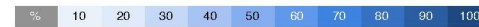
APPLE
CONFIDENTIAL



Third-party analytics tools or services use

	US	China	Japan
In-app analytics services	36%	33%	28%
Push notification services	22%	27%	24%
User acquisition analytics tools	16%	33%	22%
User feedback services	16%	25%	7%
In-app monetization services	6%	7%	9%
App Store optimization services	5%	17%	6%
Other	7%	3%	4%
Don't know	10%	12%	20%
We don't use third-party analytics tools or services	35%	21%	29%

n= 1903 588 500

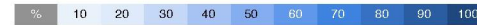


Base: All respondents
D11_N_7: Which third-party analytics tools or services does your company use? (select all that apply)

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CONFIDENTIAL 73

Third-party analytics tools or services use

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
In-app analytics services	36%	26%	38% ↑	54% ↑	33%	25%	31%	53% ↑	28%	20%	29% ↑	47% ↑
Push notification services	22%	15%	22% ↑	34% ↑	27%	24%	28%	31%	24%	16%	21%	45% ↑
User acquisition analytics tools	16%	12%	17% ↑	22% ↑	33%	28%	35%	40% ↑	22%	13%	23% ↑	42% ↑
User feedback services	16%	11%	16% ↑	25% ↑	25%	21%	26%	27%	7%	4%	8%	12% ↑
In-app monetization services	6%	6%	5%	5%	7%	6%	6%	10%	9%	6%	10%	15% ↑
App Store optimization services	5%	3%	7% ↑	8% ↑	17%	14%	17%	23% ↑	6%	4%	6%	11% ↑
Other	7%	5%	9% ↑	7%	3%	3%	3%	2%	4%	4%	5%	4%
Don't know	10%	12%	8% ↓	9%	12%	14%	9%	12%	20%	25%	18%	10% ↓
We don't use third-party analytics tools or services	35%	46%	32% ↓	17% ↓	21%	26%	21%	12% ↓	29%	36%	26%	14% ↓
n=	1903	913	568	424	588	273	182	133	500	236	159	105



Base: All respondents

D11_N_7: Which third-party analytics tools or services does your company use? (select all that apply)

Note: Arrows denote comparisons to small tier within each country.

APPLE
CONFIDENTIAL X

Other tools and resources

APPLE CONFIDENTIAL 74

Other tools would like the App Store to provide to help with app business and marketing

	US	China	Japan
More and better analytics-data (e.g. demographics, user tracking)	6%	10%	
Improvements to discoverability, search and keywords	5%	5%	
Nothing, don't know	4%	0%	
Changes to featured apps/Help to be featured	4%	3%	
More options for testing and TestFlight	2%	2%	
Improvements to publishing, deployment and reviewing process	2%	1%	
More options for ads	2%	2%	
Opportunities for small developers	2%	1%	
Improvements to customer service	1%	0%	
No response provided	60%	58%	

n=

1903

588

NA



Base: All respondents

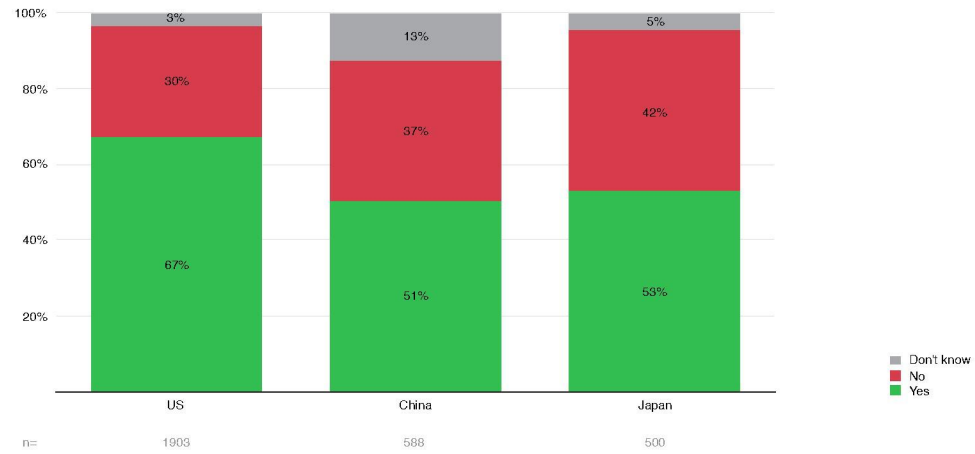
D28: What other tools would you like the App Store to provide to help your company with app business and marketing?

Note: Respondents' comments to open ended questions were manually coded into categories. Some of these categories are predetermined, others are added as new themes receive a sufficient number of mentions. The percentages reported are calculated based on the number of mentions.

APPLE
CONFIDENTIAL

75

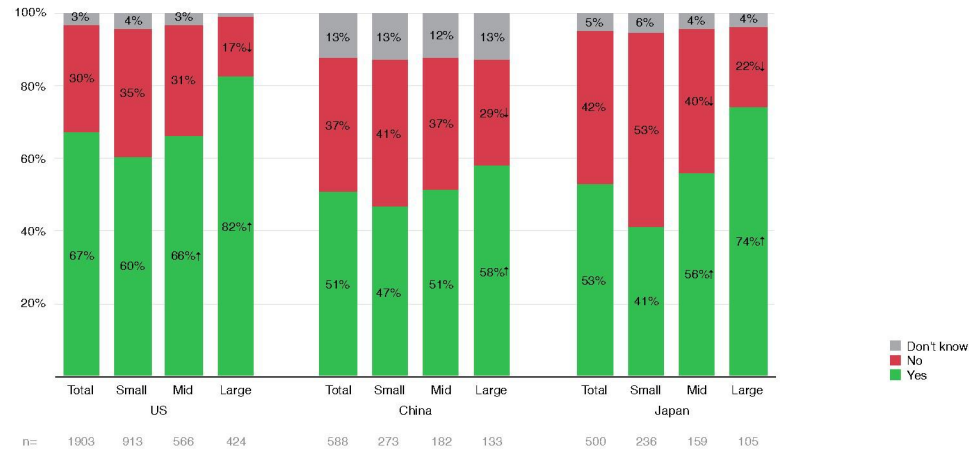
Use TestFlight



Base: All respondents
Q116: Does your company use TestFlight to beta test iOS apps?

APPLE
CONFIDENTIAL 76

Use TestFlight

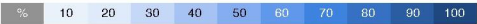


Base: All respondents
 Q116: Does your company use TestFlight to beta test iOS apps?
 Note: Arrows denote comparisons to small tier within each country.

APPLE
 CONFIDENTIAL X

Reasons for not using TestFlight

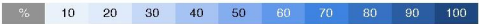
	US	China	Japan
I use another service	20%	28%	18%
I didn't know about it	14%	28%	24%
It's not cross-platform	14%	12%	14%
Test group size limitations	8%	21%	15%
Other	33%	7%	25%
Don't know	21%	12%	16%
n=	565	217	212



Base: Does not use TestFlight to beta test iOS apps
Q117: Why doesn't your company use TestFlight? (select all that apply)

Reasons for not using TestFlight

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
I use another service	20%	17%	22%	26%	28%	23%	25%		18%	14%	25%	
I didn't know about it	14%	17%	9% ↓	11%	28%	38%	19% ↓		24%	28%	29%	
It's not cross-platform	14%	12%	17%	17%	12%	9%	15%		14%	11%	24% ↑	
Test group size limitations	8%	8%	5%	14%	21%	20%	27%		15%	11%	14%	
Other	33%	29%	38% ↑	34%	7%	6%	5%		25%	24%	19%	
Don't know	21%	22%	19%	21%	12%	11%	13%		16%	19%	11%	
n=	565	322	173	70	217	111	67	small base	212	126	63	small base



Base: Does not use TestFlight to beta test iOS apps
Q117: Why doesn't your company use TestFlight? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

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Other services used to beta test iOS apps

	US	China	Japan
Hockey	20%	0%	
An in-house service	28%	62%	
Crashlytics	26%	7%	
Fabric	24%	5%	
Diawi	13%	0%	
TestFairy	8%	0%	
Other	13%	17%	
Don't know	6%	17%	
n=	110	60	small base



Base: Does not use TestFlight, instead another service, to beta test iOS apps

Q118: What other services does your company use to beta test iOS apps? (select all that apply)

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Other services used to beta test iOS apps

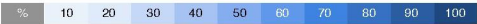
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Hockey	20%	28%			0%							
An in-house service	26%	30%			62%							
Crashlytics	26%	22%			7%							
Fabric	24%	20%			5%							
Diawi	13%	7%			0%							
TestFairy	8%	4%			0%							
Other	13%	17%			17%							
Don't know	6%	7%			17%							
n=	110	54	small base	small base	60	small base	small base	small base	small base	small base	small base	small base



Base: Does not use TestFlight, instead another service, to beta test iOS apps
Q118: What other services does your company use to beta test iOS apps? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Frequency of using non-Apple developer support resources

	US	China	Japan
Every time we have a question	72%	57%	57%
Only after we've reviewed Apple documentation and forums	22%	17%	20%
We do not use any non-Apple developer support resources	6%	12%	13%
Don't know	9%	19%	17%
n=	1903	588	500



Base: All respondents
Q119: How often does your company use non-Apple developer support resources? (select all that apply)

Frequency of using non-Apple developer support resources

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Every time we have a question	72%	66%	73% ↑	76% ↑	57%	54%	59%	57%	57%	59%	55%	54%
Only after we've reviewed Apple documentation and forums	22%	22%	20%	22%	17%	19%	13%	20%	20%	18%	20%	24%
We do not use any non-Apple developer support resources	6%	9%	4% ↓	3% ↓	12%	12%	12%	14%	13%	13%	11%	14%
Don't know	9%	8%	9%	8%	10%	19%	21%	17%	17%	16%	20%	14%
n=	1903	913	566	424	588	273	182	133	500	236	159	105



Base: All respondents
Q119: How often does your company use non-Apple developer support resources? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Reasons for using non-Apple developer support resources

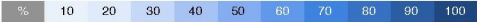
	US	China	Japan
I can't find what I need from Apple	54%	43%	49%
Non-Apple developer resources are better	49%	32%	29%
Apple does not offer the contact method I prefer	9%	19%	15%
Non-Apple resources are localized	NA	29%	24%
Other	21%	5%	11%
Don't know	9%	17%	20%
n=	1790	516	437



Base: Respondents who use non-Apple developer support resources
Q120: What is the main reason your company uses non-Apple developer support resources? (select all that apply)

Reasons for using non-Apple developer support resources

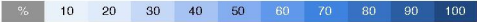
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
I can't find what I need from Apple	54%	53%	54%	58%	43%	39%	46%	46%	49%	49%	48%	50%
Non-Apple developer resources are better	49%	46%	50%	55% ↑	32%	33%	34%	29%	29%	31%	26%	29%
Apple does not offer the contact method I prefer	9%	7%	10%	10%	19%	15%	23% ↑	20%	15%	13%	21% ↑	12%
Non-Apple resources are localized	4%	5%	4%	3%	29%	30%	24%	32%	24%	24%	25%	24%
Other	21%	21%	23%	19%	5%	5%	4%	9%	11%	12%	11%	11%
Don't know	9%	10%	10%	8%	17%	18%	17%	16%	20%	19%	18%	24%
n=	1790	835	544	411	516	241	160	115	437	206	141	90



Base: Respondents who use non-Apple developer support resources
Q120: What is the main reason your company uses non-Apple developer support resources? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Reasons for using non-Apple developer support resources

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
I can't find what I need from Apple	54%	53%	54%	58%	43%	39%	46%	46%	49%	49%	48%	50%
Non-Apple developer resources are better	49%	46%	50%	55%	32%	33%	34%	29%	29%	31%	26%	29%
Apple does not offer the contact method I prefer	9%	7%	10%	10%	19%	15%	23%	20%	15%	13%	21%	12%
Non-Apple resources are localized	NA	NA	NA	NA	29%	30%	24%	32%	24%	24%	25%	24%
Other	21%	21%	23%	19%	5%	5%	4%	9%	11%	12%	11%	11%
Don't know	9%	10%	10%	8%	17%	18%	17%	16%	20%	19%	18%	24%
n=	1790	835	544	411	516	241	160	115	437	206	141	90



Base: Respondents who use non-Apple developer support resources
Q120: What is the main reason your company uses non-Apple developer support resources? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

Best way for Apple to inform about updates to developer tools

	US	China	Japan
Email	81%	69%	71%
Messaging on the iTunes Connect home page	26%	29%	27%
Add notes contextually within the iTunes Connect UI where the new features exist	25%	18%	22%
Push notification from iTunes Connect for iOS	23%	35%	23%
Post news updates on developer.apple.com	22%	23%	14%
SMS	6%	17%	6%
Other	3%	0%	3%
Don't know	7%	7%	6%

n=

1903

588

500



Base: All respondents

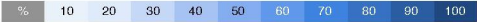
Q121: How can Apple best inform your company of updates to developer tools like iTunes Connect and TestFlight? (select all that apply)

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Best way for Apple to inform about updates to developer tools

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Email	81%	78%	81%	86% ↑	69%	68%	69%	72%	71%	69%	72%	75%
Messaging on the iTunes Connect home page	26%	23%	26%	31% ↑	29%	24%	32%	34% ↑	27%	25%	25%	35%
Add notes contextually within the iTunes Connect UI where the new features exist	25%	24%	24%	27%	18%	15%	19%	23%	22%	19%	22%	26%
Push notification from iTunes Connect for iOS	23%	23%	21%	25%	35%	33%	38%	37%	23%	23%	25%	22%
Post news updates on developer.apple.com	22%	22%	22%	24%	23%	22%	18%	32% ↑	14%	15%	11%	17%
SMS	6%	6%	6%	5%	17%	17%	18%	14%	6%	7%	4%	8%
Other	3%	3%	3%	3%	0%	0%	1%	0%	3%	2%	4%	5%
Don't know	7%	9%	7%	5% ↓	7%	8%	6%	6%	6%	6%	7%	4%
n=	1903	913	566	424	588	273	182	133	500	236	159	105



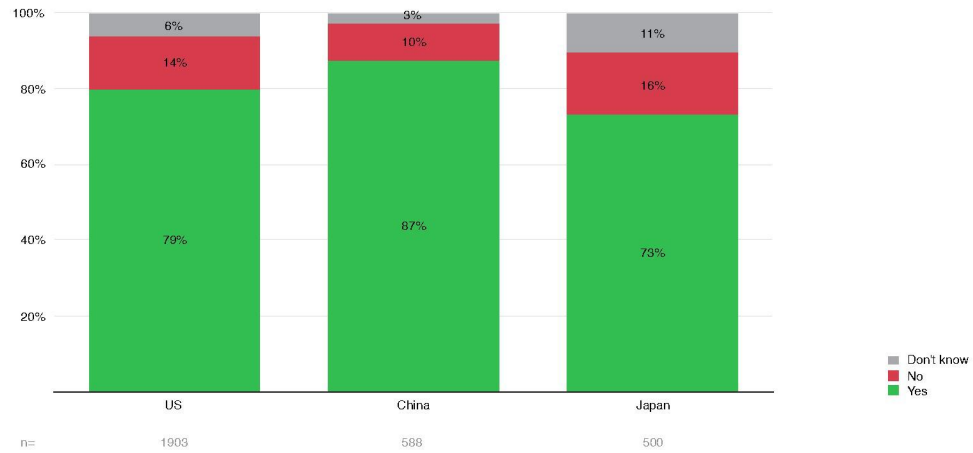
Base: All respondents
Q121: How can Apple best inform your company of updates to developer tools like iTunes Connect and TestFlight? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

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International expansion

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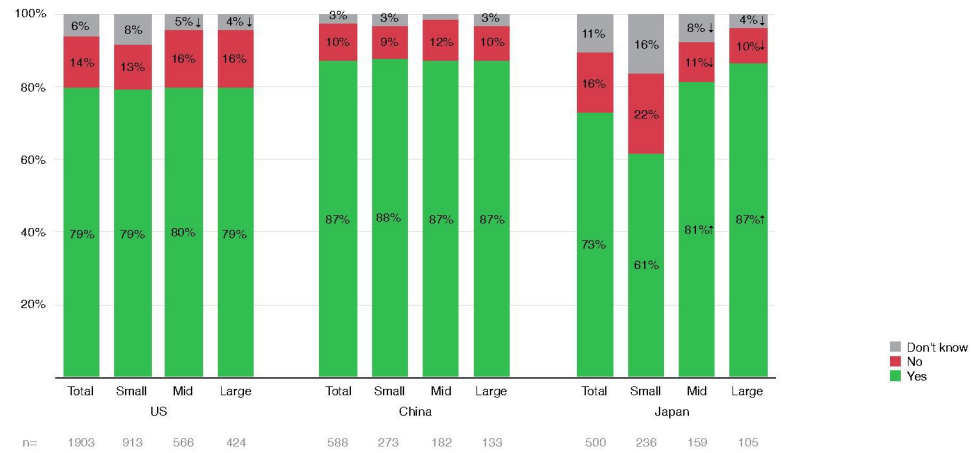
Does majority of company's Apple app business come from customers in local country



Base: All respondents
E1: Does the majority of your company's Apple app business come from customers in your local country?

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Does majority of company's Apple app business come from customers in local country



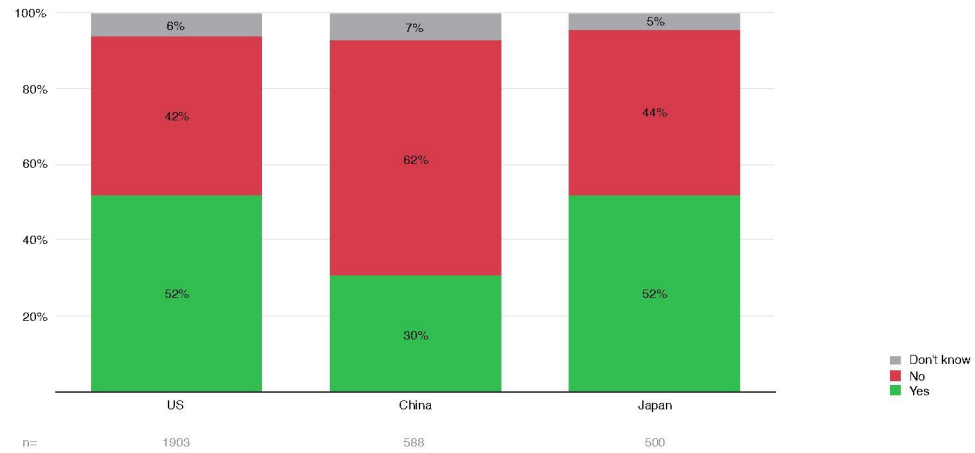
Base: All respondents

E1: Does the majority of your company's Apple app business come from customers in your local country?

Note: Arrows denote comparisons to small tier within each country.

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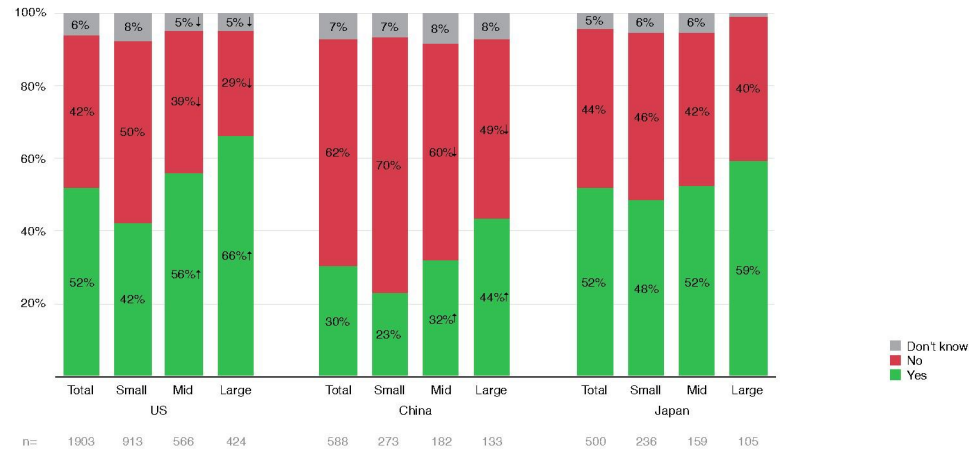
Has company expanded Apple app business internationally



Base: All respondents
E2: Has your company expanded its Apple app business internationally?

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Has company expanded Apple app business internationally



Base: All respondents
 E2: Has your company expanded its Apple app business internationally?
 Note: Arrows denote comparisons to small tier within each country.

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Resources use to determine which international markets to enter

	US	China	Japan
Guidance from app platforms (net)	31%	68%	55%
Apple	28%	67%	51%
Google Play	12%	37%	27%
Amazon	5%	6%	5%
Microsoft	3%	6%	4%
International sales reports	22%	27%	25%
Third-party research reports and services	20%	34%	17%
Other	21%	3%	7%
Don't know	28%	12%	24%

n= 985 179 259

Base: Has expanded Apple app business internationally
 E2: Has your company expanded its Apple app business internationally?

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Resources use to determine which international markets to enter

	US				China				Japan						
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large			
Guidance from app platforms (net)	31%	34%	29%	30%	68%	64%	69%	71%	55%	50%	50%	58%			
Apple	28%	31%	26%	27%	67%	62%	67%	71%	51%	47%	54%	53%			
Google Play	12%	13%	9%	14%	37%	22%	36%	55% ↑	27%	18%	27%	44%			
Amazon	5%	7%	4%	6%	6%	5%	9%	5%	5%	4%	5%	8%			
Microsoft	3%	3%	3%	2%	6%	8%	3%	7%	4%	3%	4%	5%			
International sales reports	22%	17%	22%	30% ↑	27%	30%	24%	26%	25%	25%	19%	37%			
Third-party research reports and services	20%	16%	19%	26% ↑	34%	25%	33%	43% ↑	17%	11%	13%	36%			
Other	21%	20%	21%	22%	3%	5%	2%	3%	7%	7%	7%	5%			
Don't know	28%	30%	29%	25%	12%	16%	12%	9%	24%	31%	22%	13%			
n=	985	387	317	281	179	63	58	58	259	114	83	62			
					%	10	20	30	40	50	60	70	80	90	100

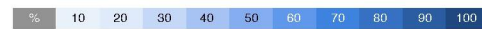
Base: Has expanded Apple app business internationally
E2: Has your company expanded its Apple app business internationally?
Note: Arrows denote comparisons to small tier within each country.

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Services use to market internationally

	US	China	Japan
Market research	15%	25%	20%
Local user acquisition channels	14%	39%	12%
Creative localization service	8%	23%	7%
Third-party publisher	7%	26%	9%
Local App Store teams	6%	15%	6%
Local PR agency	5%	13%	5%
Local ATL marketing agency	1%	8%	2%
Other	21%	3%	9%
Don't know	43%	22%	50%

n= 985 179 259



Base: Has expanded app business internationally
E4: What services do you use to market internationally? (select all that apply)

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Services use to market internationally

	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Market research	15%	12%	16%	17%	25%	25%	26%	24%	20%	18%	17%	27%
Local user acquisition channels	14%	14%	11%	16%	39%	32%	36%	50% ↑	12%	7%	13%	18% ↑
Creative localization service	8%	5%	6%	14% ↑	23%	18%	21%	31%	7%	4%	6%	15% ↑
Third-party publisher	7%	8%	6%	8%	26%	19%	22%	38% ↑	9%	4%	8%	18% ↑
Local App Store teams	6%	5%	4%	6%	15%	16%	7%	21%	6%	4%	7%	8%
Local PR agency	5%	6%	5%	5%	13%	14%	10%	14%	5%	4%	2%	11% ↑
Local ATL marketing agency	1%	1%	1%	1%	8%	6%	7%	10%	2%	1%	0%	8% ↑
Other	21%	25%	21%	16% ↓	3%	3%	0%	5%	9%	11%	11%	2% ↓
Don't know	43%	40%	45%	46%	22%	24%	22%	19%	50%	56%	49%	40% ↓
n=	985	387	317	281	179	63	58	58	259	114	83	62



Base: Has expanded app business internationally
 E4: What services do you use to market internationally? (select all that apply)
 Note: Arrows denote comparisons to small tier within each country.

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Barriers to entering new markets

	US	China	Japan
Capacity to translate apps	33%	30%	41%
No expertise of market	26%	36%	44%
High cost of localization	25%	20%	46%
High cost of marketing	18%	25%	31%
Capacity to provide customer support	18%	21%	29%
Capacity to market locally	18%	35%	33%
Tax and legal considerations	15%	20%	26%
Mobile adoption rates	10%	11%	6%
No presence of publishing platform	5%	11%	6%
Local billing options are limited	4%	16%	9%
Local currency not accepted by storefront	3%	5%	4%
Other	9%	1%	3%
Don't know	27%	17%	12%

n= 1903 588 500



Base: All respondents

E5: What barriers does your company face when entering new markets? (select all that apply)

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Barriers to entering new markets

	US				China				Japan							
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large				
Capacity to translate apps	33%	33%	33%	34%	30%	26%	35% ↑	34%	41%	37%	41%	49%				
No expertise of market	26%	25%	26%	30%	36%	30%	41% ↑	40%	44%	39%	47%	51%				
High cost of localization	25%	23%	24%	32% ↑	20%	16%	20%	24%	46%	45%	46%	50%				
High cost of marketing	18%	20%	16%	18%	25%	25%	25%	27%	31%	28%	33%	35%				
Capacity to provide customer support	18%	16%	16%	23% ↑	21%	23%	17%	22%	29%	29%	24%	36%				
Capacity to market locally	18%	17%	16%	19%	35%	33%	31%	44% ↑	33%	26%	35%	44%				
Tax and legal considerations	15%	17%	13%	15%	20%	20%	20%	20%	26%	26%	26%	33%				
Mobile adoption rates	10%	8%	10%	13% ↑	11%	10%	9%	14%	8%	6%	8%	11%				
No presence of publishing platform	5%	5%	4%	7%	11%	11%	11%	9%	6%	8%	5%	5%				
Local billing options are limited	4%	4%	4%	4%	16%	14%	20%	12%	9%	10%	7%	10%				
Local currency not accepted by storefront	3%	3%	2%	4%	5%	6%	7%	3%	4%	6%	3%	2%				
Other	9%	9%	9%	9%	1%	1%	2%	2%	3%	4%	3%	2%				
Don't know	27%	27%	30%	23%	17%	19%	15%	14%	12%	13%	11%	12%				
n=	1903	913	566	424	566	273	182	133	500	236	159	105				
						%	10	20	30	40	50	60	70	80	90	100

Base: All respondents

E5: What barriers does your company face when entering new markets? (select all that apply)

Note: Arrows denote comparisons to small tier within each country.

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Requested tools or guidance from App Store to expand internationally

	US	China	Japan
Localization service	41%	52%	57%
Guidance on cultural and market differences	30%	43%	50%
Guidance on user acquisition channels for each market	26%	49%	39%
Third-party localization service recommendations	26%	43%	28%
Other	6%	1%	4%
Don't know	37%	19%	15%

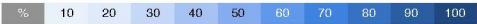
n= 1903 588 500



Base: All respondents
E6: What tools or guidance would your company like the App Store to provide to help it expand internationally? (select all that apply)

Requested tools or guidance from App Store to expand internationally

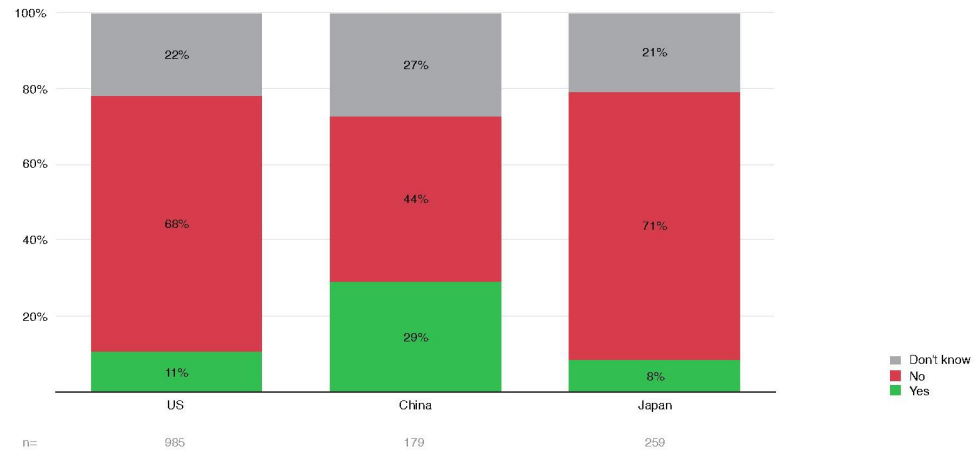
	US				China				Japan			
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large
Localization service	41%	40%	40%	47% ↑	52%	50%	54%	53%	57%	58%	57%	58%
Guidance on cultural and market differences	30%	30%	26%	32%	43%	39%	45%	51% ↑	50%	43%	51%	66% ↑
Guidance on user acquisition channels for each market	26%	26%	23%	32% ↑	49%	43%	53% ↑	57% ↑	39%	34%	38%	51% ↑
Third-party localization service recommendations	26%	25%	25%	30% ↑	43%	41%	44%	44%	28%	24%	30%	35% ↑
Other	6%	7%	6%	3% ↓	1%	2%	1%	1%	4%	2%	6%	4%
Don't know	37%	38%	39%	31% ↓	19%	22%	18%	17%	15%	20%	15%	8% ↓
n=	1903	913	566	424	588	273	182	133	500	236	159	105



Base: All respondents
E6: What tools or guidance would your company like the App Store to provide to help it expand internationally? (select all that apply)
Note: Arrows denote comparisons to small tier within each country.

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Does company use App Store's lower price tiers (where available)

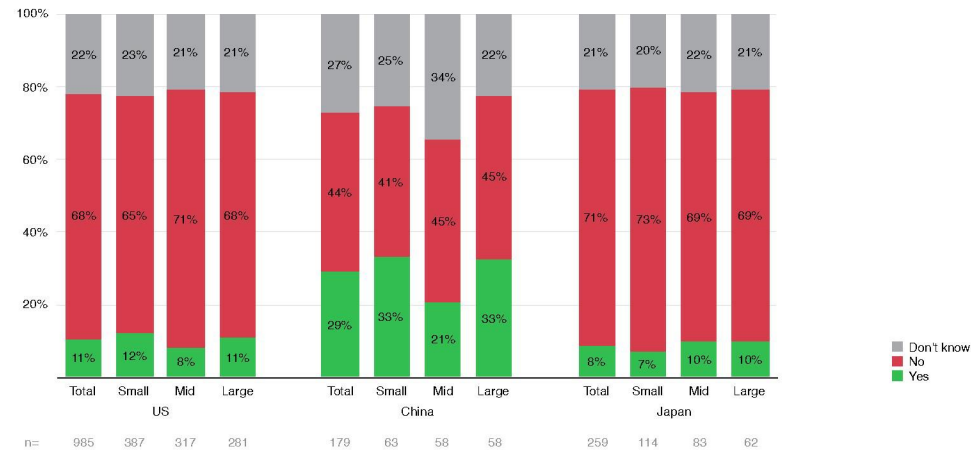


Base: Has expanded app business internationally

E6_N_1: Does your company use the App Store's lower price tiers (Alternate Tier A and Alternate Tier B) where available internationally?

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Does company use App Store's lower price tiers (where available)



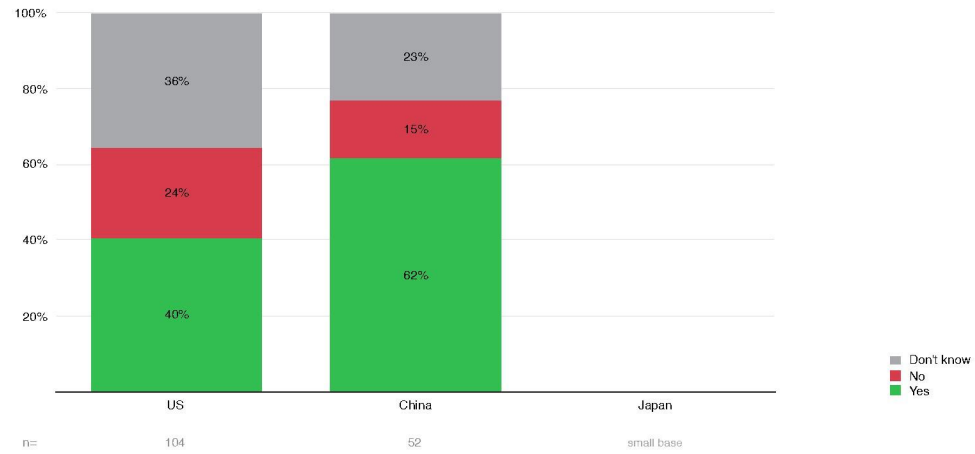
Base: Has expanded app business internationally

E6_N_1: Does your company use the App Store's lower price tiers (Alternate Tier A and Alternate Tier B) where available internationally?

Note: Arrows denote comparisons to small tier within each country.

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Are price tiers successful in driving app downloads



Base: Uses App Store's lower price tiers

E6_N_2: Are these price tiers successful in driving downloads of your company's app in these markets?

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Top countries in which company would like to expand business

	US	China	Japan
United Kingdom	46%	32%	42%
Canada	38%	22%	27%
China	34%	35%	50%
Australia	32%	26%	27%
Germany	30%	19%	25%
Japan	27%	36%	56%
France	26%	18%	23%
United States	23%	56%	71%
Mexico	20%	8%	13%
India	19%	18%	24%
Brazil	17%	13%	17%
Spain	16%	11%	17%
Italy	15%	10%	18%
Hong Kong	15%	33%	29%
Korea	15%	23%	32%
Taiwan	11%	32%	40%
Other	16%	9%	10%

n= 1903 588 500



Base: All respondents

E7: What are the top countries in which your company would like to expand business internationally? (select all that apply)

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Top countries in which company would like to expand business

	US				China				Japan						
	Total	Small	Mid	Large	Total	Small	Mid	Large	Total	Small	Mid	Large			
United Kingdom	46%	47%	45%	43%	32%	29%	34%	37%	42%	42%	41%	43%			
Canada	38%	40%	36%	36%	22%	22%	20%	25%	27%	29%	23%	28%			
China	34%	30%	32%	42% ↑	35%	46%	25% ↓	27% ↓	50%	45%	52%	50% ↑			
Australia	32%	33%	32%	31%	26%	24%	27%	26%	27%	30%	23%	30%			
Germany	30%	29%	29%	32%	19%	20%	19%	18%	25%	23%	24%	30%			
Japan	27%	27%	26%	30%	36%	32%	41% ↑	39%	56%	62%	52% ↓	47% ↓			
France	26%	26%	24%	28%	18%	21%	17%	15%	23%	20%	23%	31% ↑			
United States	23%	25%	22%	22%	56%	54%	56%	68% ↑	71%	66%	75%	73%			
Mexico	20%	21%	20%	20%	8%	8%	9%	6%	13%	11%	13%	18%			
India	19%	19%	18%	23%	18%	16%	22%	16%	24%	22%	25%	27%			
Brazil	17%	15%	15%	22% ↑	13%	12%	15%	15%	17%	15%	16%	22%			
Spain	16%	15%	16%	18%	11%	12%	12%	8%	17%	14%	16%	23%			
Italy	15%	16%	14%	15%	10%	12%	10%	8%	18%	18%	16%	21%			
Hong Kong	15%	15%	15%	15%	33%	33%	36%	31%	29%	27%	24%	44% ↑			
Korea	15%	13%	16%	17% ↑	23%	22%	25%	23%	32%	31%	25%	48% ↑			
Taiwan	11%	11%	11%	13%	32%	29%	35%	32%	40%	38%	36%	50% ↑			
Other	16%	17%	16%	15%	9%	8%	10%	11%	10%	11%	11%	10%			
n=	1903	913	566	424	588	273	182	133	500	236	159	105			
					%	10	20	30	40	50	60	70	80	90	100

Base: All respondents

E7: What are the top countries in which your company would like to expand business internationally? (select all that apply)

Note: Arrows denote comparisons to small tier within each country.

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App Store Developer Study

US, China, Japan

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